SECTION THREE

HEALTH CARE

Initial statement – From the Institute of Medicine (IOM): "*Every health care decision maker, whether patient, clinician, employer, health plan manager, or policy maker, needs credible, unbiased, and understandable evidence of the effectiveness of health services. In today's world health care decisions are made by multiple people. For the decisions to result in effective health services for the individual or for populations; the health systems and interventions need to be science/evidence-based medicine* [20]. "

SECTION THREE includes (alphabetically)
Clinics
Dental/Oral Health
Emergency Medical Services
Hospitals
Long Term Care
Mental/Behavioral Health
Pharmacy
Veterans Health Administration

National Health Care Reports

Health care spending in the United States grew 4.0 percent in 2009, to $2.5 trillion, or $8,086 per person, the slowest rate of growth in the 50-year history of the National Health Expenditure Accounts (NHEA), due in great part to the economic recession. The report, prepared annually by the Centers for Medicare & Medicaid Services (CMS) Office of the Actuary, summarizes recent trends in health spending based on the most current data sources. Despite the slowdown, health care spending growth continued to outpace overall economic growth, which declined 1.7 percent in 2009 as measured by nominal Gross Domestic Product (GDP).

According to the *United Health Foundation 2010 America's Health Rankings®*; Iowa ranks 14th in the nation in health outcomes. The Report highlights include Iowa's strengths: a high rate of high school graduation with 86.5 percent of incoming ninth graders who graduate within four years, a low rate of uninsured population at 10.4 percent, a low infant mortality rate at 5.3 deaths per 1,000 live births and few poor mental and physical health days per month at 2.6 days and 2.7 days in the previous 30 days, respectively**.** Challenges included**:** a high prevalence of binge drinking at 19.4 percent of the population and limited availability of primary care

physicians with 84 primary care physicians per 100,000 population. ***Iowa ranks lower for determinants than for health outcomes, indicating that overall healthiness may decline over time*** [21]***.***

CLINICS

In Iowa, approximately 400 clinics are owned by hospitals, groups of physicians, individual providers, or corporations. They offer comprehensive primary care services to patients primarily with insurance (private or government) or those who self-pay. These clinics are not required to be located in a health professional shortage area or offer free services or reduced cost services. Many of these for-profit clinics are located in rural communities. They enhance overall health care access to rural areas and offer valuable community benefit programs. These clinics also refer patients to hospitals or specialty providers in other clinics as necessary.

*Four clinic programs **in Iowa** that offer primary care services to underserved clients are:*

- **Community Health Centers** (CHC) and **Rural Health Clinics** (RHC) are primary health care clinic programs that offer comprehensive health services, are government-funded or reimbursed and have specific federal and state operating guidelines.
- **Free Clinics** are primary care, do not offer comprehensive care, and traditionally do not receive federal or state funding; however, in Iowa some received limited state funds.
- **Proteus Clinics** are primary care, do not offer comprehensive care, are government-funded, and have specific federal and state operating guidelines related to migrant workers.

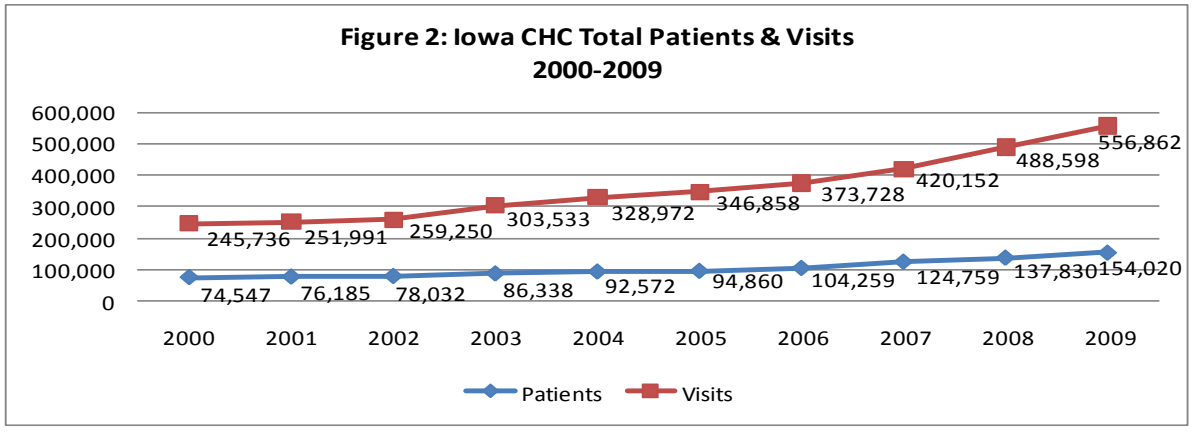
Community Health Centers

Figure 1: Iowa's Community Health Centers

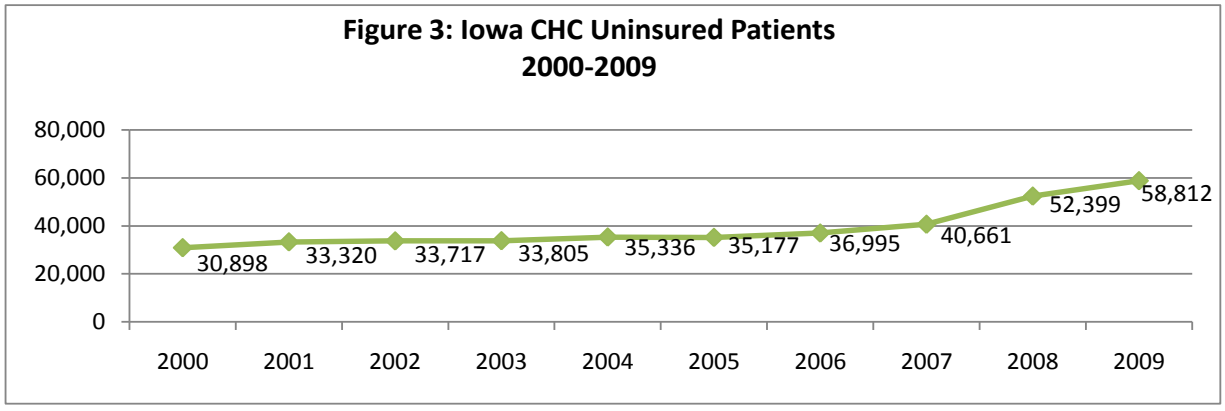
Proteus Migrant Health Project Sites

Nationally, community health centers (CHCs) across the country provided affordable, quality primary and preventive health care services to the uninsured and underserved. CHCs (also known as Federally Qualified Health Centers or FQHCs) are non-profit, community-governed providers, located in underserved areas that provide care to individuals who otherwise face financial, geographic, language, and cultural barriers to care. Today, 1,200 CHCs provide care to more than 20 million people in all 50 States and U.S. Territories. **In Iowa**, 13 CHCs and one FQHC Look-Alike provide medical, oral health and behavioral health services to 154,020 patients. (Figure 1)

Each year, health centers across the state provide services to an increasing number of patients. Over the last ten years, Iowa's health centers have more than doubled the number of patients served, and the number of annual patient visits has increased by 126 percent (Figure 2).



Similarly, the number of uninsured patients cared for by the state's health centers has also continued to increase. Between 2000 and 2009, it increased by 90 percent (Figure 3).



Resources available through the Affordable Care Act will provide an unprecedented opportunity to significantly increase access to affordable, quality health care for the underserved. The future projects expansion for Iowa's health centers over the next five years [22].

Rural Health Clinics

Rural Health Clinics (RHC) are part of a federal program implemented through the Rural Health Clinic Services Act (Public Law 95-210) which addresses the inadequate supply of physicians and mid-level providers serving Medicare beneficiaries and Medicaid recipients in rural areas. RHCs receive reasonable cost-based reimbursement from Centers for Medicare and Medicaid Services (CMS) for a defined set of core physician and certain nonphysician outpatient services. Federal criteria to qualify as an RHC require the practice to be located in a Heath Professional Shortage Area or Medically Underserved Area. Also, a mid-level provider must be working 50 percent of the time the clinic operates. RHCs are classified as provider-based (owned by a health organization) or independent/free-standing. RHCs can be for-profit, not-for profit or publicly owned and managed. There are an estimated 3,751 RHCs nationwide.

In Iowa, as of January 2011, there are 140 CMS certified Rural Health Clinics (RHC) in 58 counties. This number varies as clinics decertify, change ownership, or apply and receive certification. The clinics are truly rural community clinics in that they are located in small towns, the staff and providers usually reside in the communities, and the clinics bring economic benefits to their counties. In Iowa, approximately 78 percent of RHCs are provider-based owned by hospitals.

Iowa is one of thirteen states that utilize a Governor's shortage designation process to identify counties for eligibility to allow for certification of RHCs. The governor's designation process was first approved in 1998 by the HRSA Shortage Designation Branch. The governor's designation has been re-analyzed twice since 1998; the latest designation occurred in 2009 and will remain in effect for four years. **In Iowa,** this process allows counties which may not meet federal criteria to qualify as eligible and it helps maintain established RHCs.

Current challenges for RHCs include meeting federal guidelines to be eligible for implementing electronic health records systems and retaining physicians, physician assistants and nurse practitioners.

Free Clinics

The forty-one free clinics in Iowa do not offer comprehensive primary care. Thirteen of the free clinics are located in non-metro counties. However, rural residents also visit free clinics in metro counties. Free clinics offer basic health care services through volunteer physicians, nurses and other health care professionals. Some clinics also offer dental and vision services. They are supported by public contributions, sponsors, philanthropic foundations, and donors. In 2008, the National Association of Free Clinics estimated nationwide, that their 1,200 member clinics gave care for two million patients. The clinics expect 2009-10 will exceed by twice that number due to the economic downturn. The National Association of Free Clinics Iowa affiliate, Free Clinics of Iowa, is the largest network of free medical clinics with 24 member clinics. Some free clinics also operate with grant funds and offer sliding scale fees for those clients able to incur some costs. These clinics provide a tremendous health care service to patients and the communities, and in instances the care they give prevents patients from seeking care at local hospital emergency departments. Uncompensated patient care in emergency departments is a fiscal challenge for rural hospitals. **In Iowa,** the Iowa Department of Public Health (IDPH) coordinates the Volunteer Health Care Provider Program (VHCPP). Qualified volunteer health providers at qualified sites are provided liability coverage similar to the protection of an employee of the state as providers giving care as a volunteer.

Iowa Free Clinics - County Locations - 2010

Migrant Health Voucher Programs – Proteus

In Iowa, Proteus is a private, non-profit organization providing farmworker health services. The Migrant Health Project is a Section 330-funded, PA/Voucher program providing primarily outreach medical services to migrant and seasonal farmworker and their families throughout the state. Proteus does not offer comprehensive primary care; thus, additional cares that cannot be provided by Proteus staff are accomplished through vouchers with a prearranged network of contracted medical providers within Iowa including Community Health Centers. **In Iowa**, the main office is located in Des Moines with satellite offices in Iowa City and Fort Dodge. A full-time physician assistant (PA) is the year-around medical provider and serves as clinical director. Typically, one or two licensed PAs are hired part-time throughout the summer to assist in seeing patients and providing direct medical care. Supportive staff for each site includes a full-time bilingual, migrant health aide and two temporary health aides hired during the summer for the peak migrant season when migrant workers and their families assist farmers with field and livestock. Patients are usually seen at grower sites, at motels, in apartments and on occasion, at small town libraries [23].

Specialty Clinics

In addition to primary care clinics, Iowa also has clinics that offer specific services. Some consider them specialty clinics. These clinics usually include staff and providers with expertise, equipment and resources to best serve a unique clientele with a designated diagnosis or health need. In rural areas, specialty clinics are usually an enterprise of rural hospitals or urban hospitals. In general, patients are usually referred to specialty clinics by their primary care providers. Smaller rural hospitals are expanding specialty clinics in an attempt to create more access to care for rural residents and strengthen rural health infrastructure.

Iowa clinics that offer specialty care (4)

AgriSafe Clinics

The AgriSafe Network was founded in Iowa and now has locations in 18 states and two countries. It is composed of rural based health clinics that provide preventive occupational health services for the farming community. The ongoing program serves farmers and their families in the way of preventive health services, referrals, and personal protective equipment.

In Iowa, AgriSafe clinics, located in Ames, Ackley, Baxter, Carroll, Iowa City, LeMars, Madison, Mt. Pleasant, Oskaloosa, Peosta, Spencer and West Burlington, provide preventive occupational health services to farmers and their families who might not otherwise be able to afford these services. Farmers are at an increased risk of suffering from noise-induced hearing loss, chronic back problems, respiratory disease, stress, and farm-related injuries and fatalities. Occupational fatality rates in Iowa agriculture are about 20 percent higher than national rates, while work-related, disabling injury rates are more than double the national rate. Given the average age of the farmers receiving services is 49, the increasing elderly population in the farming community requires additional health care services specific to the needs of an aging society. Current challenges are clinics leaving the network as a result of the turnover in trained nurses at clinic locations, rapid growth of clinics without proper funding, and financial difficulties among the local clinics to provide services outside of grant funding. AgriSafe Clinic nurses are also trained in behavioral therapies and can assist and refer those needing mental health care [24].

Family Planning Council of Iowa

The Family Planning Council of Iowa (FPCI) is a nonprofit organization working to make sure safe family planning services are available to the women and men of Iowa. FPCI administers Title X Family Planning Programs to 55 counties. Clinic services include reproductive health care by providing funding for family planning exams, birth control methods, breast, cervical, and testicular cancer screening, and sexually transmitted disease testing and treatment. FPCI also delivers a number of education courses for health care providers and training sessions for clients.

FPCI disease prevention and healthy lifestyle programs offered include:

- The Iowa Infertility Prevention Program to reduce infertility
- The Iowa Human Papillomavirus (HPV) Vaccination Project to reduce cervical cancer

Planned Parenthood Clinics

Iowa has three affiliate corporate offices of Planned Parenthood (PP) Federation of America Incorporated. Office locations are:

- PP of East Central Iowa in Cedar Rapids,
- PP of Southeast Iowa in Burlington, and
- PP of the Heartland in Des Moines. The Heartland also has medical centers in Nebraska.

Via the three corporate offices, Planned Parenthood Health Centers serve clients and patients from all 99 Iowa counties. Along with reproductive health care services, the centers offer adoption placement, professional education and training, and research projects with University of Iowa and independent research. To reduce the number of deaths from breast and cervical cancer, some PP Health Centers, via federal grants, offer free mammograms and pap smears. Additionally, there is an Education and Resource Center in Des Moines, with resources located in public libraries. All Planned Parenthood Health Centers offer reduced cost services for those who cannot pay full costs.

Local Public Health Agency Clinics

Local Public Health Services clinics deliver medical state/federal programs. Client services include but are not limited to:

- Immunization clinics
- Health screening including blood pressure and blood glucose
- WIC clinics
- Cancer screening and detection services

Local public health agencies are rural community access points for a variety of wellness and health education programs. Public health professionals are experts in community health education activities and techniques. They work closely with numerous organizations and health facilities to implement strategies that can decrease the overall burden of disease and environmental factors. SECTION FOUR includes information specific to the important role local public health agencies and boards of health play in rural health

Iowa Legislation to Ensure Quality Medical Care (3)

The Iowa Health Care Safety Net Programs - If you watch a high-wire circus act closely, you will notice that the performers have a safety net below to catch them if they fall. **In Iowa**, there are specific programs including a health safety net initiative that are intended to catch Iowans in danger of falling through the cracks of the heath care system. The programs are important to rural residents. Since 2005, the Iowa Department of Public Health has administered funds from the legislature through contracts and partnership activities.

The Iowa Collaborative Safety Net Provider Network

The Network is coordinated by the Iowa/Nebraska Primary Care Association. Iowa's health care safety net providers have united to identify common unmet needs to address cooperatively. Access to pharmaceuticals, specialty care referrals, and health professional recruitment were identified as the first three areas for collaboration. Medical home was most recently added as a priority issue area. Originally the Network was comprised of Community Health Centers, Free Clinics, and Rural Health Clinics. The Network has grown in the past few years to include family planning agencies, local boards of health, and maternal/child health centers. The recession and increases in unemployment have amplified the challenges these clinics face to remain fiscally solvent. The network has a successful profile for delivery of quality care to Iowa's underserved. It will be an asset to Iowa especially as national health care reform funding is appropriated and pilot programs and initiatives are implemented. Several network locations are in rural communities.

The Iowa Patient-Centered Medical Home Program

The legislature enacted laws including the Health Care Reform Act as a blueprint for the patient-centered medical home (PCMH) plan. The Iowa Department of Public Health is the administrative agency. The PCMH system strives to: 1) reduce disparities in health care access, service delivery, and health status; 2) improve quality of health care and lower health care costs, thereby creating savings to allow more Iowans to have health care coverage within a sustainable health care system; and 3) provide a pragmatic method to document that each Iowan has access to health care. In over 35 states Medicaid and Children's Health Insurance (CHIP) programs have taken steps to promote the medical home model; state Title V Maternal Child Health Programs are key partners in many of these efforts. Additionally, the Patient Protection Affordable Care Act (PPACA) Section 2703 legislation designated "health home" as a factor for care of individuals with chronic conditions. Currently, **in Iowa**, community health centers and rural health clinics are furthest along in the transition to PCMH system, which allows rural residents access to this unique project.

The IowaCare Act

The IowaCare Act (HF 841) passed in the FY 05 legislative session and is administered by the Department of Human Services. It is best known for expanding limited Medicaid coverage to adults with incomes up to 200 percent of the federal poverty level. IowaCare is a limited health care program that covers adults ages 19-64 who would not normally be covered by Medicaid. All services must be received and ordered by a participating provider to be covered. On October 1, 2010, the IowaCare Medical Home pilot was launched. Approximately 25,000 members were assigned to a medical home where they will receive routine care, preventive services, and disease management at four designated clinics; Siouxland Community Health Center in Sioux City, Peoples Community Health Clinic in Waterloo, Broadlawns Medical Center in Des Moines, and the University of Iowa Hospitals and Clinics in Iowa City. Over the next few years, the program will expand across Iowa using existing community health centers to effectively assign every IowaCare member to a centrally located medical home. As IowaCare expands across Iowa rural residents will appreciate the increased access and rural health care providers will have a reliable referral process for clients who have limited or no insurance.

Summary

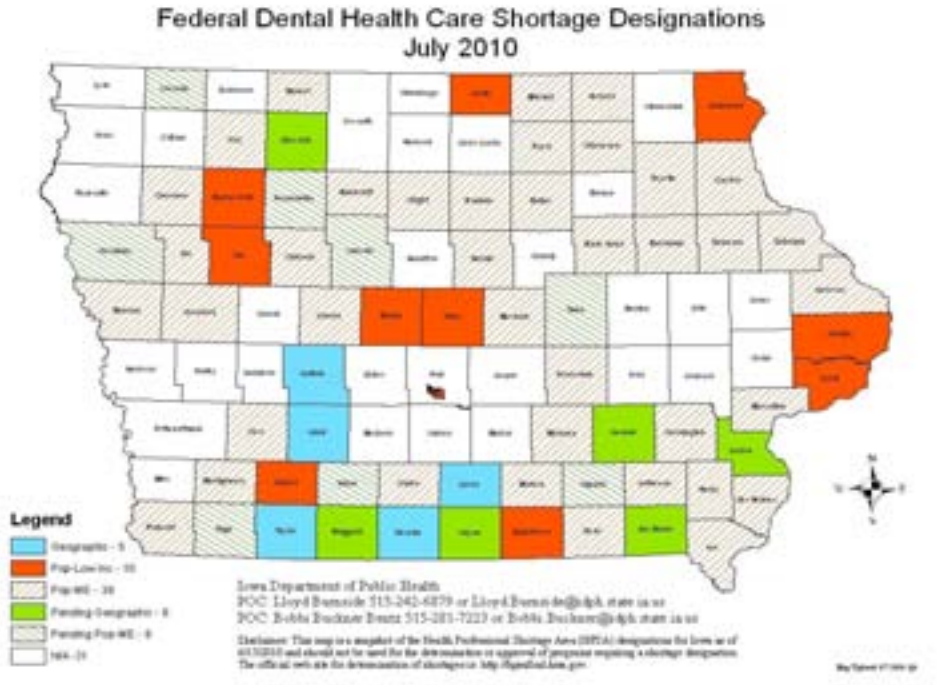
Medical clinics across the state provide a variety of services to rural Iowans. A combination of federal funds, state allocations, private profit driven, not-for-profit entities and volunteer charitable organizations all strive to deliver quality clinical services. For rural, underserved residents, access to comprehensive primary care clinic services is oftentimes a challenge. For clinics, fiscal/reimbursement issues and workforce issues are major challenges to the delivery of quality clinical services.

Comments

Secure funding and information-technology support for clinics are of vital importance to rural residents. The expansion of clinics utilizing a medical home model in rural areas will help Iowa comply with health care reform guidelines. Specialty clinics that deliver unique medical services and education to farmers are proven to reduce morbidity due to accidents. Efforts need to focus on primary care clinics partnering with local public health agencies so rural residents will have access to education and preventive health services which can improve health and decrease costs to the state.

DENTAL/ORAL HEALTH

Initial Statement - Disparities in access to dental care are well documented. *"Populations that have low incomes, are behaviorally or physically disabled, or reside in rural areas obtain less care and have poorer oral health than more affluent, healthy and urban/suburban populations,"* explained Howard L. Bailit, D.M.D., Ph.D., co-director of the *Dental Pipeline* program. About 108 million people in the U.S. have no dental insurance. The U.S. has about 141,800 working dentists and 174,100 dental hygienists, but 4,230 Dental Health Professional Shortage Areas with 49 million people living in them. **In Iowa**, 54 counties are designated as dental health care shortage areas. Designation is pending for an additional 14 counties.



In Iowa, the Bureau of Oral and Health Delivery Systems (OHDS) within the Iowa Department of Public Health works with 22 Title V child health contractors around the state to ensure access to oral health services for children through the I-Smile™ program. I-Smile™ uses dental hygienists, serving as local coordinators, to oversee referrals to dentists, provide care coordination, and act as liaisons for families with community organizations and health care providers. The I-Smile™ dental home uses multiple health care providers in locations where at-risk families are found – such as in physician offices for well-child exams or at WIC clinics. As part of their I-Smile™ projects during federal fiscal year 2010, two additional child health agencies will begin planning for school based sealant programs. In addition, one of the state's community health centers secured funding and collaborated with the local I-Smile ™ coordinator to begin a sealant program during school year 2009-10. During 2010, the OHB evaluated the school-based sealant program, to determine if changes will be made prior to offering the program in 2011.

In the future, funding may be limited to Title V child health centers that have not previously had a school-based sealant contract. OHDS plans to provide technical assistance to currently funded projects and to transition them to maintain their programs without specific IDPH funds. The goal is a system that assures optimal oral health for children [25]. As the I-Smile™ dental home system grows, it is anticipated that the oral health status of low-income children will improve, through increasing opportunities to provide preventive care within public health settings, a demand by the public for dental care, and a larger number of dental providers willing to see low-income and very young children. Twenty-two of the I-Smile™ coordinators are positioned throughout Iowa to case manage and coordinate the oral/dental care of children enrolled in the program. Last year, over 67,000 Iowa children were impacted by I-Smile™ and other IDPH programs, including fluoride mouth rinse in schools and school-based dental sealants.

The IDPH also coordinates the Maternal Health Dental Program. Women enrolled in the Title V maternal health agencies in Iowa receive oral assessments, education, counseling, and dental referrals as an integral component of their comprehensive prenatal health services. Some agencies have dental hygienists that provide oral screenings and fluoride varnish applications, reimbursable by Medicaid for Medicaid-enrolled women. The hawk-i program provides health care coverage for uninsured children of working families, and on March 1, 2010, it also began offering dental only coverage for children who have health insurance but may not have dental coverage. So far, more than 2,600 children have enrolled.

During the last three years for two days each year, underserved residents **in Iowa** had the opportunity to get no-cost dental care through the Iowa Mission of Mercy (I-MOM) project. In 2008, 1,200 patients received $600,000 in free care, in 2009; 1,400 patients were seen at a cost of $800,000. Through the course of the 2010 event, 1,439 patients were provided $955,647 in free oral health services. In addition to Iowans, one or more people participated in the event from each of the following states: Kansas, Missouri, Illinois, Wisconsin, Minnesota, Indiana, Pennsylvania, District of Columbia, Michigan and Ohio.

November 2010, the U.S. Cellular Center in Cedar Rapids was transformed into a full functioning dental clinic with mobile dental equipment and a triage system that assisted patients with accessing care for their most acute needs. Dental hygienists, dental assistants, medical personnel and community volunteers worked hand-in-hand with dentists to treat immediate dental needs. During the two days, thousands got pain relief and their dental problems fixed.

Two Dental Study Reports

Health and Human Resources and Services (HRSA) contracted with NORC Walsh Center for Rural Health Analysis to complete research and report on "*Use of Emergency Departments (ED) for Conditions Related To Poor Oral Health Care".* The 52-page final report was released in August 2010. There were inherent limitations with the data studied for each state. Despite the limitations, the study provided important evidence regarding access to dental care among low-income populations. Seven states were studied including **Iowa**. See Table A.

Table A: Iowa Study of Emergency Department (ED) Visits for Oral Health Conditions

	All ED visits	ED visits for an oral health complaint
Iowa	**868,454**	**11,351**
Total number of oral health diagnoses as a percentage of ED visits	1.3%	NA
Percent of preventable ED oral health diagnosis	NA	42.8
Percent with diagnosis of low severity	NA	52.3
Location:		
Urban area	51.1	53.9
Rural area	48.9	*46.1
Payer:		
Medicare	19.9	8.1
Medicaid	20.3	**27.2
Private insurance	42.2	28.9
Self-pay	17.5	35.9

Source: Use of Emergency Departments for Conditions Related to Poor Oral Health Care: Final Report 2010
***43% of Iowans live in non-metropolitan areas. ** Medicaid beneficiaries ED visits are overrepresented by 90%.**

The study also focused on two findings: 1) expanding access for Medicaid patients, and 2) expanding scope of practice allowing allied dental health providers to be reimbursed for Medicaid services. The report concluded, *not all Americans are achieving the same level of oral health or accessing the same high quality oral health care particularly those in rural areas, may face in seeking care in dentist's offices or dental clinics*.

In a second recent report: *The Impact of Unaddressed Dental Disease: Emergency Department Report* [26] also included Iowa data and revealed some similar results:

- In the Midwest, the median expense per person in 2005 was $1,338 for dental office care. The median ED cost per visit in Iowa was $4,626.
- In 2007, over 10,000 visits to EDs for dental related problems cost $5 million to public programs.
- In 2007, over 7,886 hospitalizations were attributed to dental abscesses with a total cost of $105.8 million.
- Urgent care dental visits in hospitals are more pronounced among the uninsured.

In Iowa, it is estimated that 94 percent of all dentists work within private practices. Of those not in university –based settings or the Department of Corrections, the remaining non-private dentists likely work within one of Iowa's community health centers. There has been little effort

to add dental services to other aspects of Iowa's Safety Net delivery system to date, leaving many unmet opportunities for building critical dental infrastructure for rural areas. This gap for underserved Iowans may require innovative means to address the problem including: 1) the addition of new dental workforce models (extenders), 2) an improved reimbursement system that is attractive to dentists working within public health and other Safety Net settings and/or, 3) an expanded, private dental practices that provide regular access for rural Iowans.

Summary

Studies revealed challenges to regular dental care such as lack of insurance, few dental providers actually treating Medicaid patients, lack of transportation, social and cultural habits, lack of dental health literacy, and an overall lack of providers. In addition, insufficient public prevention and education efforts were implicated as barriers to quality dental health.

Comments

In Iowa, continued growth and strengthening of dental professional education and clinical programs that will expand dental services to the general population and underserved, uninsured and underinsured Iowans will increase the overall health of Iowa residents, and will decrease hospital and clinic costs related to dental problems. Expansion of the I-Smile™ program to include maternal health programs and nursing homes would reach more at-risk populations.

EMERGENCY MEDICAL SERVICES

Initial Statement - Prehospital emergency care is an important component of a comprehensive health care system. In rural areas where there are fewer health care providers and the distance to acute and emergency care may be greater, prehospital emergency medical service (EMS) personnel provide essential health care services to rural residents, individuals in vehicles traveling the highways and byways through rural areas, and to those visiting rural areas.

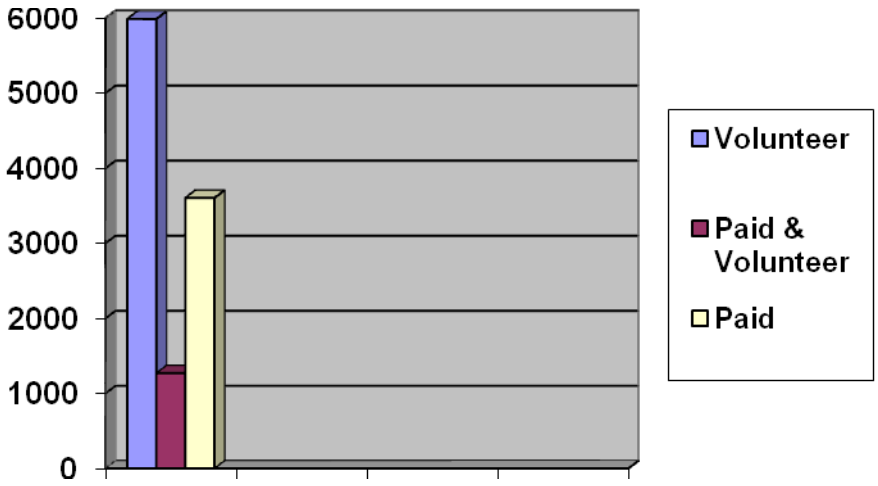
EMS is provided as a public safety function supported by the National Highway Transportation Safety Administration (NHTSA) as well as state and local governments. EMS is not supported through Health Resources and Services Administration (HRSA), the main federal coordinating and funding agency for medical and health care programs. Nationally**,** EMS has evolved and continues to transition the mode of operations, technology levels, and the areas of clinical training and education.

Iowa law requires counties to support law enforcement and fire services. However, emergency medical services are not currently mandated for county support. Today, due to a shortage of qualified workforce, costs related to training volunteers, expense of equipment and low to non-existent reimbursements, EMS agencies in some rural counties are struggling to operate. Nearly 30 percent of Iowa's ambulance services use a formal agreement with a neighboring service to supplement staffing, an increase from 12 percent in 2005.

The Iowa Department of Public Health (IDPH) houses the Iowa Bureau of Emergency Medical Services (EMS). Designated by legislative code, the department is the lead agency responsible for the development, implementation, coordination and evaluation of Iowa's EMS system. The bureau is a regulatory agency; it provides technical assistance regarding EMS provider certification and renewal, service program authorization, trauma care facility certification and renewal, statewide programs for injury prevention, and emergency medical services for children. Additionally, the Iowa EMS Advisory Council is administered by the IDPH-EMS. The council membership is multidisciplinary and provides direction to the department and offers recommendations for matters affecting EMS policy.

In Iowa, urban EMS transport is provided by hospital-based, private, or fire department-based ambulance services that include paid certified staff. In rural or small cities, EMS departments typically include volunteer staff or limited paid positions with a volunteer base. Iowa continues to have a majority of volunteer EMS providers serving rural communities. While there is nothing more valuable than a dedicated community volunteer, the time obligations and costs to the volunteer unit for training, equipment, and upkeep can become a community crisis.

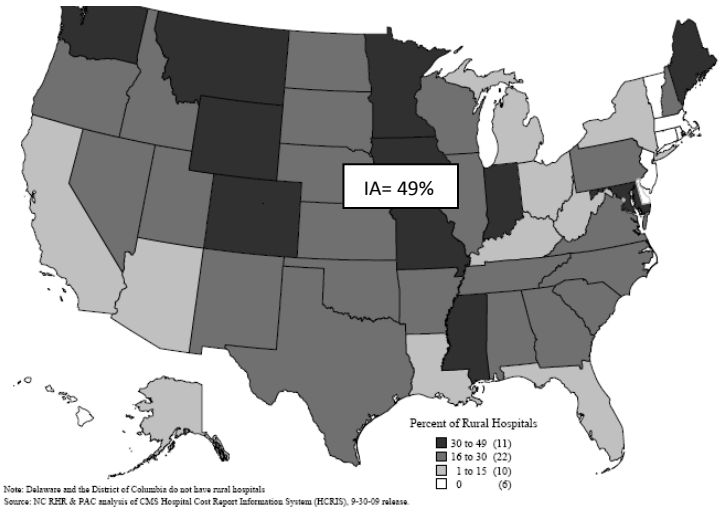
Number of IA EMS Providers on Service Roster
By Personnel Type - 2009



Rural Hospital Support for EMS - In some rural counties, EMS agencies are affiliated with rural hospitals. While this is one solution to a number of barriers for effective quality EMS, it is not always beneficial to the rural hospital. A recent report by the North Carolina Health Research & Policy Analysis Center studied how and why rural hospital support EMS. The report, *Rural Hospital Support for Emergency Medical Services* was funded by HRSA/Office of Rural Health Policy (ORHP) to better understand the implication and affects patient transportation has on small rural hospitals and their communities. All short-term stay, acute rural hospitals in the nation were evaluated. Over 90 percent of rural hospitals reported investing dollar amounts to support EMS units or they operate their own EMS unit. Rural hospitals supporting EMS were likely to be Critical Access Hospitals (CAH). Those CAHs that support EMS had a median cost of just over $235,000 per year [27]. Not all costs are covered by reimbursements.

Iowa rural hospitals have the highest level of support for EMS in the nation. Forty nine percent of rural hospitals are involved (see map) in support of their local EMS. The primary reasons rural hospital support EMS units are because EMS units were failing and/or local government entities requested that they do so. The barriers and challenges for the rural hospitals supporting EMS include work force issues and reimbursement. The federal regulation 35-mile rule prohibits Medicare cost-based reimbursement to hospitals for EMS charges if there is another EMS agency within 35 miles.

Percent of Rural Hospitals in each State that Support EMS Ambulance Service



Major Iowa EMS Projects (2)

Air Medical Transport Rules - the Emergency Medical Services Advisory Council, Air Medical Transport subcommittee worked with IDPH to promulgate administrative rules to regulate the air medical industry in Iowa. Enacted in 2010, the rules will ensure safety measures for equipment, staff and communications.

Iowa EMS Systems Standards Project - Calhoun, Des Moines, Jones, and Woodbury counties have completed the 24-month grant period to pilot test the EMS System Standards to collect data for the development of an EMS system delivery model based on the draft minimum standards. The data collected will be used to identify the lack of a governance structure and funding as challenges and resource needs. Final modification to the EMS System Standards will serve as a foundation for a statewide system. Preliminary progress reports include improved relationships between services and local governments, sharing training and administrative and medical direction resources. This project has the potential to serve as the foundation for the development of a sustainable and efficient EMS system in Iowa [28].

The Iowa Trauma System - The overall goal of the Iowa Trauma System is to enhance community health through an organized system of injury prevention, acute care and rehabilitation that is fully integrated with the public health system in a community. A trauma system should possess: 1) the distinct ability to identify risk factors and related interventions, 2) to prevent injuries in a community and, 3) maximize the integrated delivery of optimal resources for patients who ultimately need acute trauma care. Resources that are required for

each component of a trauma system are clearly identified, deployed, and evaluated to ensure that all injured patients gain access to the appropriate level of care in a timely, coordinated, and cost-effective manner. **In Iowa,** the trauma programs allow air and ground services to coordinate rapid transport for rural and farm accident injury victims from field to medical center.

All of Iowa's hospitals are currently verified and participate in Iowa's trauma care system. Therefore, the continuation of the on-site re-verification process is crucial to maintain the current structure and achieve the overall goal. Data submitted via the trauma registry can be of importance in determining populations at risk, accident prevention strategies, and methods to increase effective medical care for trauma victims. One benefit of Iowa's trauma system is to provide a minimum level of care to all Iowans no matter what area of the state they are injured.

Summary

Nationally and within Iowa, EMS is engaged in efforts to improve the educational standards of providers. There are several projects and initiatives to increase the quality value of EMS operations. The challenges to sustaining an effective EMS agency especially in rural areas are thought-provoking. **In Iowa**, small rural hospitals are recognized for their collaborative efforts to keep EMS capacity in the community.

Comments

Emergency Medical Services are vitally important to medical services in rural Iowa. Two circumstances for the daily need of effective EMS systems are: 1) Iowa is an agricultural state with a significant number of farm-related accidents, and 2) there are hundreds of thousands of commuters and travelers driving on two major interstate systems intersecting in central Iowa. In addition to the tremendous community efforts, counties need to ensure EMS services. Effective EMS, regulations and funding for staff training, data collection and continuation of successful programs are strategies to ensure EMS will continue to evolve and save lives in Iowa.

HOSPITALS

Initial Statement – Rural hospitals provide essential healthcare services to nearly 54 million people in the United States, including nine million Medicare beneficiaries. These hospitals typically serve as the healthcare hub of the community, offering residents access to a continuum of healthcare services and providers in one location. They also are frequently one of the largest, if not the largest, employers in the community – meaning, the financial stability of a small rural hospital has a tremendous influence on its community's economic status.

Critical Access Hospitals

The Medicare Rural Hospital Flexibility (FLEX) Program, created by Congress within the Balanced Budget Act of 1997, allows small hospitals to be licensed as Critical Access Hospitals (CAH) [29] and offers grants to states to help implement initiatives to strengthen the rural health care infrastructure. CAH classification was designed to prevent rural hospital closures while, at the same time, improving access to health care in rural communities. CAH designation allows the hospital to receive Medicare reimbursement on a cost-basis at 101percent of reasonable costs for inpatient and outpatient services (including lab and qualifying ambulance services).

Nationwide, there are 1320 CAH. The State of Iowa has the second largest number of CAHs with 82, just behind the State of Kansas with 83. To be classified as a CAH, a rural hospital must meet the following requirements:

- The hospital must be located more than 35 miles from another hospital;
- The number of inpatient acute care beds cannot exceed 25; (Up to ten rehabilitation and ten psychiatric beds are excluded from this calculation.)
- The average length of stay for acute care patients must be less than 96 hours;
- 24-hour emergency care services must be provided; and
- The hospital must develop agreements with other hospitals related to credentialing and patient referral & transfer.

Prior to 2006, hospitals could avoid the 35 mile requirement if the hospital was deemed a necessary provider. Federal law permitted the states to establish their own criteria for the necessary provider requirement. In Iowa, this criterion required the hospital to have certain population, geographic and facility characteristics. The hospital was also required to demonstrate its importance to the community's health status and its involvement within the community. The Iowa Department of Public Health FLEX program evaluated the applications for hospitals seeking such classification. On January 1, 2006, the "necessary provider" federal status was ended.

A CAH may be granted swing-bed approval to provide post-hospital skilled nursing facility-level care in its inpatient beds. In the case of hospice care, a hospice may contract with a CAH to provide the Medicare hospice hospital benefit. Reimbursement from Medicare is made to the hospice. The CAH may dedicate beds to the hospice, but the beds must be counted toward the 25-bed maximum. However, the hospice patient is not included in the calculation of the 96-hour annual average length of stay. The hospice patient can be admitted to the CAH for any care involved in their treatment plan or for respite care. The CAH negotiates reimbursement through an agreement with the hospice [30].

Nationally, most hospitals, including small rural hospitals depend largely on Medicare reimbursements to compensate them for services they offer; however, those with attached nursing homes can be equally dependent on Medicaid. Routinely, these hospitals face enormous fiscal challenges as reimbursement rates for these services decline – especially rural hospitals, which suffer from lower Medicare margins due to their smaller size; more modest assets and financial reserves; and higher percentage of Medicare patients since rural populations are typically older than average urban populations. As reimbursement rates for services decrease, many rural hospitals find themselves eliminating critical health care services just to remain financially solvent; in some instances, they are even forced to close their doors.

Iowa Hospitals

In Iowa, there are currently 121 hospitals, including three Veterans Administration (VA) hospitals. Of the 118 hospitals that are not VA hospitals, all are certified by Medicare and licensed by the State of Iowa. Such certification and licensure ensures the hospitals meet the minimum requirements for organization and operation.

Ninety of Iowa's 99 counties have at least one community hospital, leaving no Iowan more than 25 miles from a hospital. Twenty-two community hospitals are classified as urban hospitals because they are located in areas with a population of greater than 50,000 (also referred to as a Metropolitan Statistical Area or MSA)[31]. The large majority of Iowa's community hospitals, ninety-two in all, are classified by Medicare as rural hospitals because they are located in areas with a population of less than 50,000. Of the 92 rural hospitals, 82 hospitals are also classified as critical access hospitals. Additionally, six rural hospitals are classified as rural referral centers because they are rural hospitals that have operating characteristics similar to urban hospitals.

The Iowa CAHs participate in the FLEX Program referenced above. Over the last 12 years, the Iowa FLEX program has offered funding, technical support, and educational opportunities to CAH and network hospitals, their staff, and rural EMS. The Iowa FLEX program staff also serves as liaisons to national associations and organizations to promote grant and quality care participation opportunities for the CAHs.

Rural Referral Centers

Rural referral centers (RRCs) are relatively large rural hospitals that have operating characteristics similar to urban hospitals. A rural hospital can qualify as a RRC if it has at least 275 beds and meets the following criteria:

- At least 50 percent of its Medicare patients are referred from other hospitals or from physicians not on the hospital's staff;
- At least 60 percent of its Medicare patients reside more than 25 miles from the hospital; and
- At least 60 percent of all services the hospital provides to Medicare patients are provided to patients who live more than 25 miles from the hospital [32].

A hospital may also qualify as an RRC by meeting certain case-mix, discharge, and referral or service area standards.

Iowa Hospital Finance

Public or private insurance pays the majority of care provided by Iowa's hospitals. Medicare is the largest revenue source for hospitals, accounting for 42.8percent in 2009 [33]. Also in 2009, Wellmark provided 21percent, other private insurers provided 21.30 percent, and Medicaid provided 10.9 percent of total revenue to Iowa's hospitals. The self-pay patient accounted for the remaining 4 percent of hospital revenue [34].

Medicare payments to hospitals in Iowa are among the lowest in the nation. In 2007, Medicare reimbursements per Iowa enrollee were the 44th lowest in the nation at $6,686. According to a Rural Health Research & Policy Center, Finding Brief; "Iowa's reimbursements were 29.8 percent or $1,996 lower than the national average of $8,682." Even though Iowa's Medicare payments are low, the percentage of the population receiving Medicare is among the highest in the nation. "Iowa tied for 8th highest in the nation in Medicare enrollees as a percent of the total population**." In Iowa**, Medicare beneficiaries account for 17 percent of the state's population [35].

Medicaid reimbursement policies are also an important factor in hospital finance. This issue is especially important to CAHs because "[s]tate Medicaid agencies are not…required to reimburse CAHs on a cost basis and have flexibility in determining how CAHs are paid for providing services to Medicaid enrollees [36]." Only 28 of the 45 states with CAHs provide cost-based Medicaid reimbursement. The State of Iowa is among those states that do provide cost-based reimbursement. In fact, Iowa's Medicaid reimbursement is 101% of reasonable costs for inpatient and outpatient services.

Regardless of Iowa's increased level of cost-based Medicaid reimbursement, in 2004, the state-funded health care expenditures accounted for 13.7 percent of the gross state product and ranked 27th highest nationally [37].

Medicare as well as Medicaid payments inequities place an increasing burden on Iowa hospitals and health systems. Other areas of financial concern for Iowa's hospitals include provider-wage inflation and the costs associated with achieving compliance with the initiatives in the health care reform legislation [38].

Regardless of the financial issues faced by Iowa's hospitals, the quality of care provided to patients has not suffered. In fact, in a report of Iowa's Critical Access Hospital, Iowa's CAHs ranked higher in *every* area of patient quality than hospitals nationally. A study conducted by the FLEX Monitoring Team that analyzed the survey results of a CMS survey entitled, Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS), found the following [39]:

2008 HCAHPS Results for CAHs in Iowa and Nationally and all US Hospitals	**Mean (average) for:**		
Percent of patients who reported that:	**Iowa CAHs (n =31)**	**CAHs Nationally (n = 442)**	**All US hospitals (n = 3,765)**
Nurses always communicated well	80%	79%	74%
Doctors always communicated well	83%	83%	80%
Patient always received help as soon as wanted	69%	71%	62%
Pain was always well controlled	71%	71%	68%
Staff always explained about medications before giving them to patient	62%	63%	59%
Yes, staff gave patient information about what to do during recovery at home	82%	82%	80%
Area around patient room was always quiet at night	62%	61%	56%
Patient room and bathroom were always clean	82%	78%	69%
Patients gave an overall hospital rating of 9 or 10 (high) on 1-10 scale	73%	70%	64%
Patients would definitely recommend the hospital to friends and family	73%	71%	68%

Iowa Promising Practice

National Recognition for Rural Iowa Hospital

Monroe County Hospital & Clinics (MCHC), a critical access hospital in Albia is a prime example of an Iowa hospital that excels in providing quality care to its patients. MCHC is a six-time recipient of Press Ganey's Summit Award. The Summit Award is given to facilities that receive a patient satisfaction ranking in the 95th percentile or above for three consecutive years. Categories for the Summit Award include: ambulatory surgery, emergency department, inpatient, inpatient behavioral health, medical practice, and outpatient. In the past six years, MCHC has been awarded one Summit Award in the area of ambulatory surgery, two for its emergency department services, and three for its outpatient services.

Summary

In addition to the medical and health services, community hospitals help stabilize the population base, invigorate their communities and contribute significantly to the quality of life. Iowa has a vigorous, rural hospital system that includes critical assess hospitals and the six larger rural reference centers. Daily, these rural hospitals are challenged to overcome issues related to disparate reimbursement, maintaining operations and moving fast forward with changes related to health reform.

Comment

There is an imperative to ensure access to hospital care and services for residents in Iowa's many rural areas. Federal, and state policy makers and agencies must support programs and funding that enable rural hospitals to reduce and eliminate the numerous challenges they face, so they can remain a vital components of their communities' health.

Long Term Care

Initial Statement

Long-term care as we knew it a generation ago is changing – medical advances are allowing people to live longer and Americans are demanding more options and services closer to home. Rural areas face particular challenges meeting Americans' needs for quality, accessible long-term care; rural Iowa is no exception. With a growing elderly population and declining rural populations, long-term care presents significant issues and priorities for rural Iowa.

The Continuum of Long-Term Care

Long-term care services can be most simply defined as "services and supports that meet health or personal needs over an extended period of time" [40]. Long-term care is a phrase that is more commonly used when referring to services for the aging; the disability community often refers to these services as community supports or supports for independent living [41]. For the purposes of this section, long-term care will be used to refer to the entire continuum of health, rehabilitative and residential services available to individuals with chronic illness or disabilities [42].

Long-term care is different than medical care in that it meets ongoing needs to improve functioning or assist someone with limited functioning [43]. Long-term care can be delivered in a variety of different ways, such as a stay in a nursing home; a spouse providing personal cares (such as bathing or dressing) at home; a home health aide assisting with cleaning and cooking; daily assistance in a group residential setting; or support meeting employment goals in the community. One example of the continuum of long-term care services and supports is outlined below. It includes home, community and facility settings [44].

FACILITY SETTINGS	**HOME AND COMMUNITY BASED SETTINGS**		
	Community Residential	**Supports to Individuals and Families**	**Community Supports (non-residential)**
Nursing Facilities	Group Homes	Personal Assistance and Support	Day Services and Programs
Intermediate Care Facilities/MR	Residential Care Facilities	Personal Care	Respite
State Resource Centers	Hospice	Home Health	Supported Employment
Hospitals	Assisted Living	Supported Community Living	
	Semi-independent Living		

(Adapted from *Continuum of Direct Care Service Delivery, Draft Version*, Direct Care Workforce Initiative, Iowa Department of Public Health, April 2011)

Who Receives Long-Term Care?

Approximately 9.5 million people in the US need help with either activities of daily living (ADLs) or instrumental activities of daily living (IADLs), and therefore meet the definition for needing long-term care services and supports [45]. The majority of individuals are 65 years of age or older (63 percent). Most of the individuals receiving long-term care live in the community [46].

Definitions:
Activities of Daily Living (ADLs) are basic tasks of everyday life and include bathing, eating, dressing, using the toilet, and transferring from one place to another.
Instrumental Activities of Daily Living (IADLs) include meal preparation, managing money, managing medications, using the telephone, doing light housework, and shopping for groceries [47].

Nationally Critical Access Hospitals (CAHs) and other rural hospital provide more umbrella long-term care services than urban hospitals. However, between 2000 and 2008 the number of CAHs providing services has declined as the LTC reimbursement policies change.

LTC Services	CAH	Other Rural	Urban
Swing beds	89.9%	39.2%	6.3%
SNF	42.4%	29.6%	20.1%
Intermediate Care	17.1%	8.5%	6.2%
Separate NH-type LTC unit	25.4%	20.1%	11.1%
Acute LTC	3.6%	4.7%	10.7%
Other LTC	10.5%	6.4%	4.6%
Adult day care	8.3%	3.7%	5.9%
Assisted living	9.5%	4.1%	2.6%
Hospice	21.3%	26.6%	23.0%
Home health	35.3%	45.4%	25.1%
Meals on Wheels	14.8%	9.7%	8.6%
Retirement housing	7.8%	2.7%	1.9%

Source: 2008 American Hospital Association Annual Survey & FLEX Monitoring Team Policy Brief #19
† To receive approval to operate swing beds, a hospital must be designated as rural (i.e., located in an area delineated as an urbanized area by the U.S. Census Bureau)and have fewer than 100 beds, excluding beds for newborns and beds in intensive care type inpatient units. Over time, population changes have resulted in changes to the rural status of the area in which some of these hospitals are located.

Long-Term Care in Iowa

Since long-term care is so broadly defined and encompasses a significant diversity of services and supports (including informal or family care in the home), estimates cannot be made about the number of individuals receiving long-term care in Iowa. However, existing data provide information about the numbers of Iowans that may be impacted by long-term care needs and the capacity of long-term care services in Iowa.

In 2008, the population of Iowans, 65 years old and over, was 14.8 percent, and that percentage is projected to be 22.4 percent by 2030 [48]. Iowa has a disability prevalence rate of 11.8 percent for all ages, and the total number of Iowans with disabilities who received Social Security benefits between the ages of 18 and 64 totaled 73,251 in 2008 [49].

The following tables (4) provide a snapshot of individuals served, services available, and capacity of current infrastructure to provide long-term care in Iowa. The charts are not intended to provide definitive numbers or information, but a summary of some of the services available.

Medicaid Home and Community Based Waivers

Home and Community Based Waivers are Medicaid programs that have rules set aside or waived to provide flexibility in how and where services are delivered. Iowa has seven Medicaid Waiver Programs [50].

Table 1.

Medicaid Home and Community Based Waivers	Numbers Served (2009)
AIDS/HIV (Adults and children)	56
Brain Injury (Adults)	1,056
Children with Serious Emotional Disturbance	614
Older Adults	9,779
Intellectual Disability (Adults and children)	10,662
Physical Disability (Adults and children)	842
Mental Illness	3,339
Total Persons Served on HCBS Waivers	**26,348**

Medicaid Long-Term Care Services

The following chart provides information about the number of Iowans that received specific services (those most likely to require ongoing direct long-term care services) through Medicaid between July 2008 and June 2009 [51].

Table 2.

Medicaid Service	Numbers Served
Home Health	38,979
Intermediate Care Facility	18,352
Intermediate Care Facility – MR	2,255
Residential Care Facility	2,488
Habilitation Services	3,725
Remedial Services	18,527
Adult Day Care	1
Assisted Living	NA*
Total Persons Served through DCW-Provided Medicaid Services	**84,327****

Long-Term Care Facilities

The following chart provides a summary of the total number of long-term care facilities in Iowa as of April 2010 [52].

Table 3.

Type of Facility	Total Entities in Iowa	Maximum Occupancy
Free-standing nursing and skilled nursing facility	397	28,775
Free-standing nursing facility	10	1,244
Free-standing skilled nursing facility	3	142
Intermediate Care Facility – MR	141	3,127
Intermediate Care Facility – PMI	1	25
Residential Care Facility	97	3,555
Residential Care Facility – MR	52	678
Residential Care Facility – PMI	13	284
3-5 Bed Residential Care Facility – MR/MI/DD	27	134

Hospital	42	9,439
Critical Access Hospital	82	2,498
Psychiatric Medical Institute for Children (PMIC)	33	532
Chronic Confusion and Dementing Illness (CCDI) Unit	117	2,316
Totals for Long-Term Care in Iowa	**1,015**	**52,749**

Home and Community Based Facilities and Programs

This chart provides a summary of facilities that are certified by the Iowa Department of Inspections and Appeals as Home and Community-Based Facilities or Programs as of May 2010 [53].

Table 4.

Certified Home and Community Based Facility or Program	Total Entities Certified in Iowa	Total Capacity
Home Health Agencies (HHAs)	176	0
Rehabilitation Agencies (Rehab)	37	0
Elder Group Homes	7	33
Assisted Living Programs	231	12,311
Assisted Living Programs for Persons with Dementia	67	5,298
Adult Day Services	31	927
Totals for Certified Home and Community Based Facilities and Programs in Iowa	**549**	**18,569**

Providers of Direct Care Services

Direct care professionals provide the vast majority of formal paid long-term care – representing 70 to 80 percent of the hands-on long-term care and personal assistance delivered to individuals with disabilities and chronic conditions and the elderly in the US [54]. Defined as individuals who provide supportive services and care to people experiencing illnesses or disabilities, the direct care workforce is now estimated to be the single largest workforce in the state (approximately 50,000 workers in 2011) [55]. The majority of direct care professionals are in home and community-based settings. By 2018, home and community-based workers are expected to outnumber facility workers by nearly two to one [56]. According to recent estimates from Iowa Workforce Development, nurse aides and home health aides (two types of direct

care professionals) are in the top 10 for job growth in Iowa, and we need an additional 11,000 direct care professionals by 2018 to meet the demand [57].

It is important to note that informal care, provided by unpaid family members and friends, actually makes up the majority of all long-term care services provided in the US. According to the National Family Caregivers Association, "…More than 65 million people, 29 percent of the U.S. population, provide care for a chronically ill, disabled or aged family member or friend during any given year and spend an average of 20 hours per week providing care for their loved one" [58]. Fourteen percent of family caregivers are caring for a special needs child, with 55 percent of these caregivers caring for their own children [59]. For the elderly living in the community, only six percent of those with long-term care needs receive only formal paid care; 47 percent receive only informal care from family and friends; and 19 percent receive both formal and informal care [60]. The National Family Caregivers Association reports that family and friend care giving services for older adults equal an estimated $375 billion a year, twice the amount spent on home care and nursing home services [61].

Current Challenges and Trends in Rural Long-Term Care

In a national survey of state and local rural health leaders and stakeholders, access to quality health services was identified as the top rural health priority [62]. In a separate survey of rural providers conducted by the American Health Care Association and the National Center for Assisted Living, the most-often cited challenges to facilities with long-term care included finding and keeping qualified staff, declining census, reimbursement too low to cover costs, transportation, and limited access to services [63]. Rural providers also work with an older and sicker population; rural elderly are older than urban elderly and more likely report poor health [64].

There are three major trends occurring in Iowa, and nationally, that impact long-term care service quality and delivery in rural areas – an aging population; a declining overall population; and increased demand for services in home and community-based settings. The population of Iowans over age 65 is projected to increase 50 percent in the next two decades, compounding rural challenges since 75 percent of individuals over age 65 suffer from at least one chronic illness [65]. It is well known that baby boomers will place stress on already-fragile health and long-term care systems throughout the country. And their desire to avoid institutional settings and 'age in place' will greatly influence the service and delivery options made available in the near future.

According to the U.S. Census Bureau, Iowa's population grew only 2.8 percent between 2000 and 2009 while the United States' population grew 9.1 percent for the same time period [66].

Iowa is a mostly rural state with the population becoming increasingly urbanized, and residents, particularly younger Iowans, migrating to the most populated counties in the state. Between 2000 and 2007, 76 of Iowa's 99 counties lost population, and five of those counties (all of them rural) lost 10 percent or more of their population [67]. In addition, residence impacts accessibility to health care professionals in Iowa. Currently, 55 of 99 counties in Iowa are fully or partially designated as primary care Health Professional Shortage Areas (HPSAs), meaning there are not enough health care professionals to meet the needs in those communities.

There is already evidence that Iowans are increasingly utilizing services in home and community- based settings. The number of Iowa Medicaid members receiving waiver services increased 35.8 percent between 2005 and 2010 [68]. Although the data and projects in Iowa like Money Follows the Person (Centers for Medicare and Medicaid Services grant) emphasize rebalancing the long-term care system and providing more choice in how and where people receive services, the options do not always exist in rural areas. Research has shown that individuals are more likely to use home and community-based service waivers (through Medicaid) if they are white, urban, and have better access to transportation [69]. However, promising practices such as telemedicine and increased use of technology by home health care agencies (such as the ability to read and review vitals off-site) are providing more opportunities to deliver the high-quality care and services desired by rural Iowans [70].

Summary

Long-term care is an increasingly vital service in Iowa, particularly in rural communities. As the state plans for the aging of the baby boomers, it is important to continue finding solutions. Also, for rural challenges to long-term care, solutions with issues such as transportation, lack of available and qualified staff, and qualified training for direct care workers working in facilities and private homes. To maintain comprehensive, long-term care services for the growing aged population, rural hospitals need reimbursement levels that meet the level of care delivered.

Comment

Iowa is implementing reforms to the long-term care system that provide resources and promising practices to assist in improving options for individuals. Also, allowing individuals to receive services how and where they desire. The Iowa Legislature passed legislation in 2008 establishing several health policy councils and committees to look at implementing health care reforms in the state and improving efficiency and quality in Iowa's health and long-term care systems. Iowa's Money Follows the Person project targets individuals living in intermediate care facilities for the mentally retarded and providing supports and services to allow them to live in communities of their choice.

MENTAL/BEHAVIORAL HEATLH

Initial statement - Because mental health and physical health go hand-in-hand, mental health can directly impact personal wellness, job satisfaction, productivity, family dynamics and overall health of the community. Comprehensive mental health services include inpatient treatments, counseling and psychotherapy, social services, peer and professionally facilitated supports, as well as medication as appropriate. Rural residents are less likely to receive needed mental health and behavioral therapies than those residing in urban areas.

Rural Mental Health

Mental health services are in short supply in rural America. Mental health service needs in rural areas and the barriers to improving the availability, accessibility, and acceptability of rural mental health services are well documented. Federal programs in rural mental health care are in the federal Departments of Health and Human Services, Agriculture, and Education. The role of HRSA Office of Rural Health Policy is information analysis for improving rural mental health care policy.

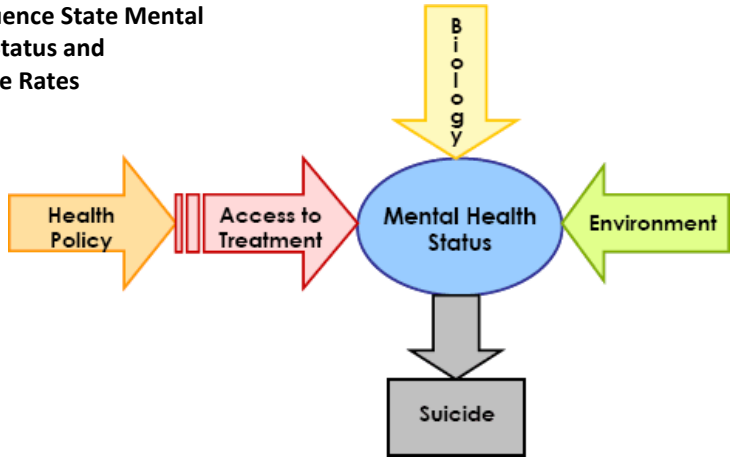
Even after the severe impact of the 1980's farm crisis, with a suicide rate among male farmers and ranchers that was nearly four times as high as the national average, a rash of homicides (e.g., shootings of farm lenders), and social protests (e.g., rallies at farm auctions), today, mental health care in rural America still lags behind its urban counterparts. Overall, there is still very little difference between the prevalence of clinically defined mental health problems in urban areas versus rural [71]. But the availability of treatment services in rural areas of the U.S. is significantly less.

The U.S. Agency for Healthcare Research and Quality 2010 report indicates in 2007 that of 95 million visits to emergency room by adults, 12 million or 12.5 percent had to do with mental health and substance abuse disorders. Rural hospitals do not always have ER staff with mental health expertise. Of the 12 million visits that were billed, 30 percent went to Medicare, 26 percent went to private insurers, 20 percent went to Medicaid, and 21percent of patients were uninsured . Hospitals expect the number of ER visits for mental health care to increase as health reform expands insurance coverage. Additionally, if the patient requires transport, rural hospitals can spend several hours arranging for transport and often need to coordinate with county law enforcement.

National Report

Ranking of America's Mental Health: An Analysis of Depression across the States, examined depression as a chronic illness and the principal cause of suicide. The data from the study ranked states for depression and suicide. **Iowa was ranked fourth highest for depression** and 23rd for suicide. The report also concluded: 1) the more generous a state's mental health parity coverage, the greater the number of people in the population that receive mental health services and described 2) the factors that influence state mental health status and suicide rates [72]. (See graphic below.)

Factors That Influence State Mental Health Status and Suicide Rates



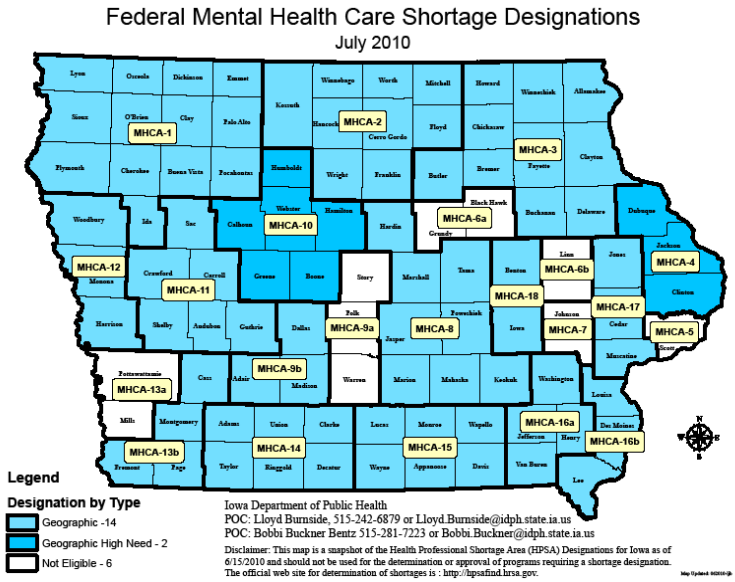
Source: Ranking of America's Mental Health: An Analysis of Depression Across the States. (2007)

More Recently - In January 2011, Michael Rosmann Ph.D, Executive Director of Agriwellness Inc. in Harlan, IA, distributed information including statements from the *Daily Iowan* newspaper. The article highlighted the problem of suicide in rural counties: "*Even though over half of Iowa's population lives in urban areas, from 2000-2008, 1,568 people committed suicide* in rural *counties of Iowa, versus 1,382 in the state's urban counties. Negative stigma about seeking professional mental healthcare contributes to the problem."* The executive director of the Community Mental Health Center in Iowa City, Stephen Trefz, was quoted in the June 11, 2010 issue of the *Daily Iowan*: *"You don't see many farmers at the (grain) elevator saying, 'I'm going to see my therapist."* The article was a reflection of the need for more behavioral therapy and mental health care in rural areas. However, because of a shortage in health care professionals, behavioral health treatment and counseling in rural communities, it can often a primary care provider that initiates the diagnosis, makes referrals, and does follow-up care to help rural residents with their psychological needs.

One of Dr. Rosmann's recent studies revealed—"*Historically, the behavioral health of the agricultural population has been affected by their economic well being. Sufficient research now exists to recognize the agricultural population as a health disparity group. A pattern of environmental, cultural, and economic factors unique to the agricultural community suggests a higher risk for health disparity among persons engaged in agriculture. Gradually over the past few years a new field, agricultural behavioral health, has emerged."* Development of behavioral healthcare services specific to the agricultural population generally has accompanied periods of economic difficulty for farmers, ranchers, and farm laborers, such as the Great Depression of the 1930s and the Farm Crisis of the 1980s. One response to the 1980s farm crisis was establishment of telephone hotlines to provide confidential and free supportive counseling for farm and rural callers (e.g., Iowa Concern Hotline, Kansas Rural Family Helpline, Nebraska Rural Response Hotline, and Wisconsin Farm Center). The hotlines employ trained telephone responders who can refer callers for needed mediation and professional mental health services [73].

In Iowa, the Department of Human Services Division (DHS) of Mental Health and Disability Services (MHDS) works to ensure that quality mental health and disability services are available to Iowans. However, Iowa lags in adequately prepared service providers. According to the HRSA National Center for Health Workforce Analysis, Iowa ranks 47th among states in psychiatrists per capita, 46th among states in psychologists per capita, and 28th among states in social workers per capita. According to 2006 Iowa's Mental Health Workforce Report, nationally, Iowa exhibits a high percentage of mental health professionals, ages 55 or over, which predicts an increase in mental health workforce shortage [74].

Eighty-nine of Iowa's 99 counties are designated by the federal government as Mental Health Care Shortage areas. The federal government officially recognizes there are not enough mental health professionals to provide a sufficient level of care in these counties. This designation qualifies the facilities in the geographic area to apply for federal funding for provider loan repayment. It also allows facilities in these areas to hire J-1 visa physicians through the State Conrad 30 program. Iowa also has limited loan repayment funds available through the Iowa Department of Public Health PRIMECARE program and through the State Loan Repayment Program (SLRP). The 10 counties in Iowa that do not meet the designation of a shortage are all counties that are also metropolitan statistical areas. There is a notable rural health disparity in the area of mental health access.



Broadlawns Medical Center (BMC) delivers comprehensive mental health services including community-based services, outpatient services, and inpatient care. The overall program includes child and adolescent services. Mental health assessment allows for drug addiction services, if needed. BMC admits patients from Polk County and several rural counties.

In addition to community hospitals, there are four state mental health institutions that serve Iowa through the state Department of Human Services, all built during the late 1800s — Mount Pleasant, Independence, Clarinda, and Cherokee. Each institution has distinct service areas and has developed a specific specialty of care. Additionally, the Oakdale Hospital serves as a medical and classification center and Mount Pleasant Hospital serves clients with mental health and alcohol/chemical dependency. The Veterans Administration (VA) maintains three mental health hospitals in Des Moines, Knoxville, and Iowa City.

Iowa receives about $3.7 million per year from the federal Community Mental Health Block Grant that is passed through to counties. The funding is for adults and children who are seriously mentally ill and not for inpatient care. It is intended for community agencies activities that support the needs of the mentally ill. As of November 2010, Iowa has 95 Community Mental Health Centers. The Iowa Consortium for Mental Health partners with DHS and the University of Iowa and serves as a liaison and resource agency to address the priority needs of the public mental health system.

The Iowa Department of Public Health (IDPH) currently administers two programs which enhance and support mental health services in Iowa.

The Mental Health Professional Shortage Area Program was initially established through legislation in 2007. It directs IDPH to administer funds for two mental health capacity-building projects. The first project is a one-year postdoctoral internship program for psychologists and was established by the Iowa Psychological Association. The second program, entitled the Mental Health Professional Shortage Area Program, provides funding to Community Mental Health Centers and hospitals with psychiatric in-patient units to recruit and retain psychiatrists. This program focuses on the recruitment and retention of psychiatric medical directors in facilities that are located in federally qualified mental health professional shortage areas.

The Post Graduate Psychiatric Training Residency Program is also administered by IDPH state funds. The program has two state contracts, one at Cherokee Mental Health Institute and the second at the University of Iowa, Department of Psychiatry. These programs train advanced practitioners such as nurse practitioners and physician assistants in a one-year residency/fellowship in mental health.

Summary

Mental health care is currently in crisis mode in rural America and in Iowa. Major contributing factors are insufficiency of a qualified health workforce and reimbursement. There also is not ample funding specific to those in rural areas who are not seriously mentally ill and who rather need counseling and outpatient interventions for acute episodes or life factors that may lead to serious health and family situations. There are too few psychiatric beds in hospitals and declining outpatient mental health services in rural communities. Rather those seeking acute mental health interventions are presenting in emergency departments. Primary care providers in clinics deliver mental health services because of the shortage of “expert” mental health practitioners in their communities, but cannot always get reimbursement. In spite of the challenges, there are some promising practices and innovative programs in rural Iowa.

Comment

According to federal law, mental health services require parity. Comprehensive mental health services need to be an integral part of basic primary health care. However, studies and real life experiences indicate that rural residents, especially farmers, may be hesitant to enroll in mental health services designed for the chronic mentally ill. Rural Iowans can benefit from federal and Iowa programs that build on workforce training experiences in rural areas, and support programs delivering mental health interventions. Upcoming health reform changes to insurance availability will help noninsured persons seeking mental health services; however it does not ensure access. Additionally, programs and funding that are designed to avoid a mental health crisis events can help hospital emergency departments dealing with the increase in mental health visits and the uncompensated cost issues.

Pharmacy

Pharmacy services are imperative in ensuring the optimal management of a patient's medical conditions. The rural health population is particularly prone to being older (with limited mobility), having more long-term diseases, and being more financially restricted. Pharmacists have an important role in assisting patients in rural populations on the appropriate use of their medications; in providing medication dose packing and other such compliance to medication regimen aids; in helping to select less costly, equally effective medications; and in answering patient questions related to medications [75]. The growth of internet pharmacies and mail-order options may at first appear as a solution to access-related concerns for rural patients. However, an important consideration is whether the rural community has appropriate technology or telecommunication tools to access such services. Another concern when utilizing internet pharmacies is the lack of medication review and inconsistent review of medication interactions, specifically when adding a new medication to a patient's drug regimen. Furthermore, access to medications does not necessarily ensure appropriate understanding of the importance to use the medications, directions on time-of-day administration, and other important considerations regular pharmacist consultations would address.

Pharmacists are sometimes the only health care professionals available in a rural area. Generally, pharmacy hours are more extended than mobile rural clinic hours, and this enables patients to have questions about their disease states addressed by the pharmacist. Also, many rural pharmacists are on call for any type of emergency whether to act as a resource for information or to dispense medications. Thus, this is a critical point-of-access for patients in addressing questions related to poisonings, medication usage, and, in certain circumstances, to refer patients to the emergency room for issues that require immediate or extensive care. The National Advisory Committee on Rural Health and Human Services delivered a report to the Secretary of Health and Human Services (HHS) in 2006 highlighting access to pharmaceuticals and pharmacy services in rural areas. The committee identified this area as a major concern because of the 16% increase in spending for prescription drugs seen across the nation; thus, making it important to ensure access to needed medications would not restrict adherence to medication regimens [76].

The committee report also identified a concern in the rural population related to enrollment in optimal Medicare Part D prescription plans. Through home visits and through public comments, the committee found that rural seniors may not have the most optimal plan based on their prescriptions. Seniors expressed confusion about the various Part D plans available and a lack of understanding on different formularies and awareness of the designated enrollment period. Seniors would benefit from pharmacist consultations to assist patients in accessing Medicare resources to help choose an appropriate prescription benefit plan. The report further directs

the HHS secretary to study prescription plans that may force participants to utilize mail-order pharmacy services and restrict access to a pharmacist [77].

Online Pharmacies - The increasing availability of internet pharmacies or electronic pharmacies may also be a concern for the rural population. Though there is wide variability in access to the internet in rural settings, it is still a concern to consider the utilization of internet pharmacies in this population. Patients that utilize uncertified internet pharmacies may be purchasing drugs from sites that have not gone through quality screenings by the Food and Drug Administration (FDA). These unapproved sites may offer lower-cost prescription medications, but they may not have the same potency as prescribed by the primary care provider [78]. Internet pharmacies may be licensed by the National Association of Boards of Pharmacy (NABP). However the NABP lack the authority to shut down unlicensed sites in other countries, which is the primary supplier of online prescription drugs for patients. Some prescriptions purchased may also not be approved by the FDA for use in the United States, may be counterfeit or illegal. Some internet pharmacies may also lack an appropriate method to verify that prescribers have a current license to practice versus a community pharmacy that is more familiar with the agent of the prescriber, and are better suited to evaluate an appropriate patient-prescriber relationship related to a prescription drug. Therefore, the rural health population may be prone to fall victim to online pharmacies because of lack of local community pharmacies, and an overall lack of understanding of safety concerns associated with online pharmacies [79].

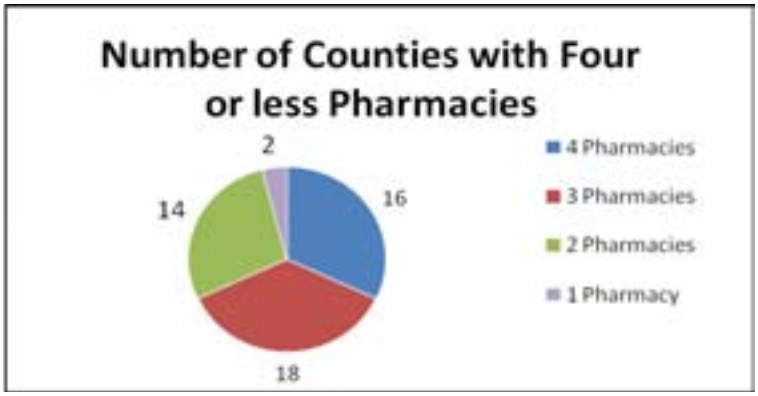


Figure 1. Iowa Counties with four or fewer pharmacies: Source IA Pharmacy Association

Pharmacy in Iowa

In Iowa, 50.5 percent of Iowa's 99 counties contain 4 or less pharmacies per county. Figure 1 above shows a breakdown of the number of counties with 4, 3, 2, or 1 pharmacies located in the designated Iowa county. These numbers are adapted from membership data for the Iowa

Pharmacy Association and include both hospital pharmacies as well as community pharmacies. Thus, this may overestimate the actual patient service pharmacies that provide chronic disease medications and other services for patients. Of those rural pharmacies, over 90 percent are owned independently versus chain membership prevalent in more urban areas [80].

Independent pharmacies face many challenges, including an inability to negotiate lower costs, inability to purchase in small quantities and decreased delivery schedules from wholesalers due to the smaller volume of prescriptions generally seen in rural, independent pharmacy settings. Staffing these community pharmacies is also a major concern, with only approximately 12% of pharmacists practicing in a rural setting. It is very difficult to replace pharmacists who retire or to attract new graduates to these settings. Often, with loan amounts averaging greater than $100,000, there are greater incentives to work in more urban areas that can provide higher salaries versus the low volume rural settings. Thus, independent pharmacies are constantly working to retain an adequate number of staff and to offer innovative services to compete with mail-order pharmacies and other concerns that endanger their existence [81].

State Legislated Pharmacy Program

Iowa Prescription Drug Donation Repository Program

Lack of pharmacies in rural Iowa is well documented. Access to medications can be a horrendous challenge for the underserved, uninsured and underinsured. Iowa Administrative Rule Chapter 109 defines the Prescription Drug Donation Repository Program. The IDPH is the state program administrator and partners in program activities. **In Iowa**, the Iowa Prescription Drug Corporation (IPDC) manages several programs designed to increase access to affordable medications for the safety net population. IPDC programs include:

1. Drug Donation Repository Program which allows medical facilities and pharmacies to re-dispense pharmaceuticals and supplies that would otherwise be destroyed
2. Medication Discount Card for qualified clients
3. Iowa Medication Voucher Program with limited selection of generic medications focused on five disease states: diabetes, high blood pressure, elevated cholesterol, depression, and pregnancy/pre- and post-natal care

Drug Donation Repository Program– Rural Impact Case Study

The Iowa Drug Donation Repository Program received 48 Zyvox tablets from an individual donation. Zyvox is used to treat Methicillin-resistance Staphylococcus Aureus (MRSA), a bacterial infection that is highly resistant to some antibiotics. At the time of dispensing, the retail cost of the Zyvox was $78.20 per tablet. The Iowa Department of Public Health was

contacted regarding the Zyvox donation and information was posted through the infectious control network. The Critical Access Hospital in Winterset, Iowa requested 24 of the Zyvox tablets. The requested Zyvox tablets, valued at $1,876, were shipped to the rural hospital and dispensed to a young man who was uninsured and currently hospitalized. The patient had been hospitalized for three days and was receiving IV antibiotic treatment. Without the donated Zyvox, the patient would have remained in the hospital for an additional 10 days to continue IV antibiotic treatment. The young man received the oral antibiotic and was able to return home to treat his infection without further hospitalization. As a result of the Zyvox donation, over $41,000 in medication and hospitalization costs were saved. The additional 10-day IV antibiotic treatment was estimated at $5,956. The cost of 10 additional days in a hospital (excluding physician fees) was estimated at $35,980 according to the Iowa Hospital Association.

Summary

Pharmacy is an integral part of the rural health care community. Providing access to medication through the availability of a community pharmacy will enable patients to increase medication adherence and improve understanding of a disease state or the appropriate way to use a medication. More than a third of Iowa's counties have three or less pharmacies. These limitations can impact management of chronic disease states like diabetes, hypertension, and heart failure, which are a significant financial burden to the patient and health care system. Ideally rural Iowans will have access to appropriate medication managed and delivered by a pharmacist in conjunction with regular medical care [82].

Comment

Pharmacy services must be available in rural communities and pharmacists should be invited as part of the health care team in delivering care for patients. An expanded pharmaceutical care program available with appropriate reimbursement for medication services can increase access to important pharmacist provided services and improve the overall health of the rural population. Rural hospitals and clinics need drug procurement systems that allow safe, low cost, and efficient delivery of medications. Underserved Iowans are benefiting from the current Prescription Drug Donation Repository Program.

VETERANS HEALTH ADMINISTRATION

Veterans Health Administration (VHA) is within the U.S. Department of Veterans Affairs (VA). The VHA is known for commitment to innovative quality, safety programs, and its transparency in being accountable for the results achieved by those programs. A VHA top priority is---*the special need of veterans who live in rural areas and have to travel further to receive health care.* Nationwide, there are 171 medical centers; more than 350 outpatient, community, and outreach clinics; 126 nursing home care and 35 domiciliary units. The VHA operates with 23 Veterans Integrated Service Networks (VISN). Iowa is part of VISN 23 which along with VISN 9 and 15 has the highest percentage of rural veteran patients (59 percent) in the nation. (See map below.) VISN 23 also has a full-time rural health consultant who leads rural health activities across the network.

The VHA recently released its second facility-level report on quality and safety. *The 2010 VHA Facility Quality and Safety Report* used clinical performance measures identical to those used by the Health Resources Services Administration (HRSA) to rate and compare hospitals that give care to Medicare beneficiaries.

One section of the report examined urban vs. rural health care and focused on quality of care in the outpatient setting. There were no clinically significant differences for any of the outpatient quality of care composites between patients residing in rural and urban areas. An additional analysis revealed that rural patients reported similar levels of patient satisfaction as urban patients [83]. Overall, for veterans who receive VHA medical services, there were no differences in quality of care or patient satisfaction rates between urban and rural patients.

Rural Verses Urban Health Care Costs

In 2009, researchers Alan N. West and William B. Weeks released a report: *Health care expenditures for urban and rural veterans in Veterans Health Administration care.* The study assessed whether urban-rural differences in access to medical care are similar for veterans who use the VA compared with veterans who do not use the VA, or nonveterans, and whether these access differences may vary with age. The study analyzed expenditures data from nine years of the Medical Expenditures Panel Survey (MEPS; http://www.meps.ahrq.gov), a continuous national health survey of the general US population.

The following are findings from the expenditure analysis: Rural residents, particularly men younger than 65 years, were at a disadvantage socio-economically, with respect to insurance coverage. Rural VA users younger than 65 years reported poor health as often as older VA users, and more often than other working-age men, including urban VA users. Their annual expenditures averaged $1,100 less than urban VA users, who were more likely to have private insurance. Rural VA users were least likely to have insurance. Yet for those without insurance, their self-payments for care were as high as urban VA users, and substantially higher than other men younger than 65 years [84].

The VA in Iowa

In Iowa, the VHA maintains two medical center facilities systems: the VA Central Iowa Health Care Systems (CIHCS) in Des Moines and the Iowa City VA Medical Center. The medical centers offer a full array of acute and specialized medical and surgical services, residential outpatient treatment programs in substance abuse and post-traumatic stress, a full range of mental health and long-term care services, sub-acute and restorative rehabilitation services and a domiciliary care. Statewide, there are 12 outpatient clinics or Community Based Outpatient Clinics (CBOC). There are extensive pharmacy services including prescriptions by mail. Three vet centers in Cedar Rapids, Des Moines, and Sioux City are staffed with counselors and individuals who can work with veterans and their families.

Two VHA services making a difference to rural veterans are home telehealth and the Medical Foster Care program. Home telehealth promotes care coordination and allows health monitoring from the home. Services increased 80% between 2007 and 2008 [85]. The Des Moines VA Center coordinates the Medical Foster Home program. It allows placement of veterans who can no longer stay at home alone and want to stay in a home environment. Qualified individuals receive training and support as foster care workers. The veteran needing supervised care can then move into the foster home.

In August of 2008, the University for Iowa Veterans Affair Medical Center was one of three sites in the nation awarded a $10 million rural health grant. The university established the VA Midwest Rural Health Resource Center. The grant supports a number of initiatives to enhance health care delivery to rural veterans and closes gaps in quality and access to care that may result from the geographic isolation faced by rural veterans. The establishment of the Rural Health Resource Center represents a partnership between several VA medical centers within the Veterans Integrated Service Network (VISN) 23.

Summary

The VA has been engaged in innovative strategies to increase quality care for veterans. The VA Health Care system recognizes the need for increased services and access for veterans returning from war, and for the growing number of veterans who are part of the baby boomer generation (75 percent of rural veterans are over age 65).

Comment

The VHA reaches out to rural communities, health care delivery systems, universities and rural health leaders to move forward planning that will best serve "*veterans who live in rural areas and have to travel further to receive health care."* When possible, community agencies, rural clinics and hospitals should join and support initiatives that result in increased medical and social services for their local veterans.

SECTION FOUR

LOCAL HEALTH AGENCIES AND BOARDS OF HEALTH

Initial Statement – Residents deserve a local public health system that supports local capacity to assess, plan, and implement local health improvements.

According to the American Public Health Association, by definition, *public health is the practice of preventing disease and promoting good health within groups of people, from small communities to entire countries.* Nationally and within Iowa public health saves money and improves quality of life. A healthy public gets sick less frequently and spends less money on health care; this means better economic productivity and an improved quality of life for everyone. Importantly to all communities, improving public health helps children thrive and healthy children become healthy adults. *Public health prevention programs educate people about the effects of lifestyle choices on their health*. Public health also reduces the impact of disasters, by preparing people for the effects of catastrophes such as hurricanes, tornadoes and terrorist attacks [86].

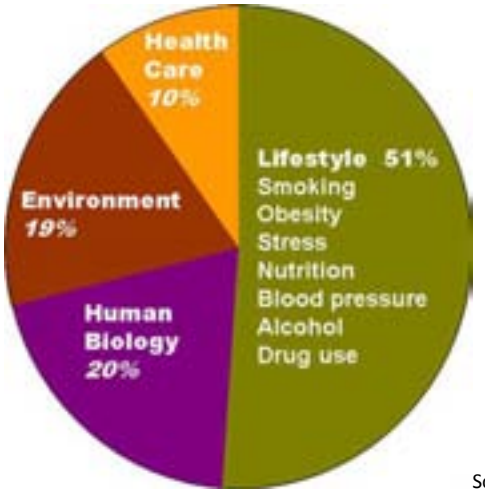
Nationally and in Iowa local health agencies are major influences in rural health. A 2008 profile by the National Association of County and City Health Officials (NACCHO), reported the majority of local health agencies are in and serving counties with less than 50,000 residents.

One of the most beneficial aspects of public health is; local health agencies have in-depth knowledge about their communities and traditionally maintain a high profile of involvement in matters that affect overall health. They are "in the trenches" and have close contact with residents. Local health agencies ability to approach the issues that determine good or bad health makes them an invaluable asset in health care reform provisions which address prevention and wellness.

Determinants of Health

> **Social Determinants of Health-** the conditions in which people are born, grow, live, work and age, including the health system. They are shaped by the distribution of money, power and resources at global, national and local levels, which are influenced by policy choices. The social determinants of health are mostly responsible for health inequities - the unfair and avoidable differences in health status seen within and between countries [87].

Fifty percent of the determinants of health are due to behaviors; 20 percent to environmental factors; 20 percent to genetics; and only 10 percent to having access to medical care. In 2008 as a nation 96 percent of health expenditure was spent on medical services and only 4 percent on preventing disease and promoting health.



Source: Georgia Health Policy Center

The majority of the most costly health conditions are preventable, including obesity, diabetes, heart disease and asthma. The end result of unmanageable health behaviors is chronic disease. Chronic disease in our country is costly, human suffering is experienced in almost every family and the final outcome can be premature death.

Solutions

Investments in disease prevention could result in significant savings in U.S. health care costs. A recent report[1] finds that an investment of $10 per person per year in proven community-based programs to increase physical activity, improve nutrition, and prevent tobacco use could save more than $16 billion annually within 5 years. This is a return on investment of $5.60 for every $1. The report focused on disease prevention programs that do not require medical care and target communities [88]. **In Iowa** there could be a cost saving of $214,300 in 10-12 years with the $10 per person investment [89].

The Iowa Department of Public Health (IDPH), local health agencies and boards of health often partner to deliver strategies that result in health promotion, disease prevention and mass public education. The levels of disease and risk prevention (primary, secondary and tertiary) allow numerous opportunities for public health professional and officials to help individuals to better health and ensure vital communities. See Table 1.

Table 1.

Level	Definition	Examples
Primary Prevention	Health promotion activities that prevent the actual occurrence of a specific illness or disease.	• Immunizations • Health education about prevention illness • Hand washing
Secondary Prevention	Promotes early detection of disease, thereby increasing opportunities for interventions to prevent the progression of the disease.	• Screening for a specific disease • Treatment of hypertension to prevent complications • Initiating dietary changes to prevent overweight/obesity
Tertiary Prevention	Directed towards recovery or rehabilitation of a disease or condition after the disease has been developed.	• Referring someone who had a stroke to rehabilitation • Educating someone how to manage their diabetes

Source: Prevention Issue Brief – IDPH: Prevention and Chronic Care Management Advisory Council – October 2010

Moving Forward with Health Reform

Public Health and medical care organizations will begin to engage more frequently as the national health reform legislation provisions are implemented. Federal offices vision strategic frameworks to reduce the burden of multiple chronic conditions that involve public health systems. Four overarching goals are:

1. Foster health care and public health system changes to improve the health of individuals with multiple chronic conditions
2. Maximize the use of proven self-care management and other services by individuals with multiple chronic conditions
3. Provide better tools and information to health care, public health, and social services workers who deliver care to individuals with multiple chronic conditions
4. Facilitate research to fill knowledge gaps about, and interventions and systems to benefit, individuals with multiple chronic conditions [90].

In Iowa 32 existing public health subcontracts are hospital based. As health reform implementation moves forward in Iowa, this unique arrangements allows medical care and public health entities to build on existing partnerships, operations and knowledge. This can be a distinct advantage to rural communities. See Table 2.

Table 2.

IOWA County (32)	Hospital Affiliated - Agency Name
Adair County	Adair County Memorial Hospital / Home Care
Allamakee County	Veterans Memorial Hospital Community and Home Care
Benton County	Virginia Gay Hospital/ Home Health Agency
Boone County	Home Care Services of Boone County Hospital
Carroll Co	St Anthony's Home Health Agency
Cass County	Cass County Memorial Hospital Home Care
Cherokee County	Cherokee Regional Medical Center Home Choice/Hospice/Public Health Agency
Clay County	Spencer Hospital Clay County Community Health
Davis County	Davis County Hospital Home and Community Health
Delaware County	Delaware County Community Health/Regional Medical Center
Dickinson County	Dickinson County Public Health/Lakes Regional Health Center
Fayette County	Palmer Lutheran Health Center/Palmer Home Health
Fremont County	Southwest Iowa Home Health Services--Grape Memorial Hospital
Greene Co	Greene County Medical Center Public Health
Grundy County	Grundy County Home Care Services/ Allen Hospital Branch
Henry County	Henry County Health Center/Henry County Public Health
Howard County	Regional Health Services of Howard County/Community Health Services
Humboldt County	Humboldt County Hospital/Home Care Connections (
Ida County	Horn Memorial Hospital/Ida County Public Health
Jackson County	Jackson County Public Hospital/Home and Community Health
Jasper County	Skiff Medical Center/Jasper County Public Health
Kossuth County	Community Health Kossuth Regional Health Center

Mahaska County	Mahaska Health Partnership Community Health
Marshall County	Marshalltown Medical Surgical Center Home Care Plus
Muscatine County	Trinity-Muscatine
Osceola County	Osceola Community Health Services
Palo Alto County	Palo Alto Community Health Nursing Services
Plymouth County	Floyd Valley Community Health Services
Poweshiek County	Grinnell Regional Public Health and Home Care
Shelby County	Myrtue Memorial Hospital Home and Public Health
Story County	Mary Greeley Medical Center- HOMEWARD
Union County	Greater Regional Medical Center--Outreach Public Health Dept.

Both the Public Health and the Patient Protection and Affordable Care Act (ACA) include a number of provisions directed toward prevention and wellness initiatives:

- A National Prevention, Health Promotion and Public Health Council were created to provide coordination and leadership among agencies related to prevention and health promotion practices.
- A *Prevention and Public Health Fund* was established to provide an expanded and sustained national support for public health and prevention programs directed toward activities to prevent and control chronic diseases. It will be funded at $7 billion from 2010 through 2015, and $2 billion for each fiscal year after 2015.
- It allows insurers to create incentives for health promotion and disease prevention practices through significant premium discounts and encourages employers to provide wellness programs and provide premium discounts for employees who participate in these programs.
- It requires chain restaurants and vending machine food to disclose the nutritional content of each item.
- It appropriates $25 million for the childhood obesity demonstration project, which was established through the Children's Health Insurance Program Reauthorization Act (CHIPRA).
- It also includes a "Creating Healthier Communities" grant program for health departments to implement various prevention initiatives to reduce chronic diseases and eliminate inequalities in health by race, ethnicity and socioeconomic status.

In Iowa through ACA 505,000 Medicare beneficiaries are eligible to receive preventative services and other benefits [91].

In Iowa

Public health services are especially important to the members of the public who have no other payment source, to the general public during time of disease outbreaks, and for counties with high numbers of vulnerable populations and high poverty levels. On a daily basis local public health staff, deliver a variety of medical care, home care, and health promotion and disease preventions services. Additionally public health agencies often serve as the facilitator for community initiatives, collaborations and partnerships.

The Iowa Department of Public Health Bureau of Local Public Health Services serves as an IDPH state liaison to local boards of health, and local public health providers. Originally, funding for the bureau was established by Iowa legislation to prevent inappropriate or early institutionalization of individuals. The IDPH contracts with each county board of health or board of supervisors to provide population-based and home care aide services. Public health nursing and home care aide services are available in every county. Currently there are six public health services regions. Each region has an assigned IDPH Regional Community Health Consultant who works with area agencies to promote and protect public health.

Iowa Local Public Health Regions

The Bureau of Local Public Health Services promotes and supports development of public health infrastructure at the local and state level. This includes consultation by Regional Community Health Consultants with local boards of health and provision of technical assistance regarding the boards' role and responsibilities. Communities benefit through increased capacity

to plan and implement health promotion activities and education to get the people the information they need to make healthy choices. Through financial support, education, ongoing technical assistance and monitoring, the bureau supports the development and delivery of services that promote and protect the health of Iowans and contribute to Iowa being a "healthy community". The regional field staff assists the local boards of health and local public health agencies to develop quality and effective services that are community-driven, culturally appropriate and responsive to their Community Health Needs Assessment and Health Improvement Plan and consistent with federal or state regulations and/or funding requirements.

The Local Public Health Services Grant provides funding to each county for local programs that help Iowans engage in healthy behaviors, improve access to health services for those who "fall between the cracks" and often have no other options, and strengthen the public health infrastructure. The grant is considered "funder of last resort" and is utilized only when no other funding source exists.

Local Public Health Services activities include, but are not limited to:

- Communicable disease surveillance, investigation, and follow-up;
- Immunization clinics;
- Personal care and support services including home care aide and homemaker services
- Skilled nursing visits in the client's home;
- Screening services including blood pressure and blood glucose;
- Health education to community groups; and
- Prevention programs like fall prevention, bike safety, and home safety inventories.

Modernization of Public Health

Modernization is a partnership between state and local public health to advance the quality and performance of public health in Iowa through careful development and implementation of Public Health Standards. Iowa Legislation that builds on the Public Health Modernization Act was introduced by the Department of Public Health January 11, 2010. Legislation was signed by Governor Culver which detailed activities between the IDPH and county boards of health.

Modernizing Public Health in Iowa is a continuation of Redesigning Public Health in Iowa. Redesign focused on the development of the Iowa Public Health Standards, and developing a plan to implement those standards. Modernization in Iowa will focus on bringing about the actions described in the implementation plan. Both Redesign and Modernization are partnerships between local and state public health.

The Metrics subcommittee of the Public Health Advisory Council and Public Health Evaluation Committee developed metrics for the Iowa Public Health Standards. As the subcommittee is working they are clarifying standards to be sure that Iowa's standards align with the national standards developed by the Public Health Accreditation Board (PHAB).

Local Boards of Health

In 1866 the original Local Health Law designated the mayor and members of the town council or the township trustees in the rural areas as the local board of health. The law gave them the authority to establish regulations for public health and safety, to control nuisances, and to regulate sources of filth and causes of sickness in communities.

In 1967 Chapter 137 of the Code of Iowa marked the beginning of a new era of public health in Iowa. Each county was required to establish a five member local board of health with one member being a physician licensed by the state of Iowa. The county board of supervisors would appoint members to the local board. The law provided cities with populations greater than 25,000 with the option to establish a city board of health. Counties and cities could form district boards of health.

Local boards of health have responsibility for public health in their jurisdiction. They support local public health vision, mission, and advocacy and encourage community involvement in setting public health priorities. In addition, local boards of health have been given the responsibility to oversee utilization of the Local Public Health Services Contract.

Serving on a local board of health is an honorable and noteworthy task. The success of public health in meeting the challenges of the new millennium will depend on capable and dedicated leadership by the local boards of health.

CORE FUNCTIONS AND ESSENTIAL SERVICES OF A LOCAL BOARD OF HEALTH [92]

Assessment:

- Monitor health status of the community to identify health problems.
- Diagnose and investigate health problems and health hazards in the community.
- Evaluate effectiveness, accessibility, and quality of personal and population-based health services.
- Monitor health status of the community to identify health problems.
- Diagnose and investigate health problems and health hazards in the community.
- Evaluate effectiveness, accessibility, and quality of personal and population-based health services.

Policy Development:

- Develop policies and plans that support individual and community health efforts.
- Enforce laws and regulations that protect health and ensure safety.
- Research for new insights and innovative solutions to health problems.

Assurance:

- Inform, educate and empower people about health issues.
- Mobilize community partnerships to identify and solve problems.
- Link people to needed personal health services and assure provision of health care when otherwise unavailable.
- Assure a competent public health and personal health care workforce

County Health Assessments

Every five years, local boards of health lead a community-wide discussion with stakeholders about their community's health needs and what might be done about them. This role not only is a standard in the Iowa Public Health Standards, it also is a Local Public Health Services Contract performance measure. A Community Health Needs Assessment and Health Improvement Plan (CHNA & HIP) report was due on February 26, 2011. Counties had the option of working together with other counties and submitting the report or completing the process as a single county. Materials, resources, and data to assist the counties were developed through discussion with a department oversight team, feedback from six local health agencies, regional meetings where the process was introduced, and input from the regional community health consultants [93]. The CHNA & HIP data from county officials were submitted to the Iowa Department of Public Health.

In addition to the CHNA & HIP, the *2010* County Health Rankings, the Robert Wood Johnson Foundation, the University of Wisconsin and the Population Health Institute ranks cities and counties in the 50 states on health factors and health outcomes. The report was released in March of 2011. *"County Health Rankings Mobilizing Action Towards Community Health"* ranked all 99 Iowa counties on health outcomes and health factors.

> The Iowa report is available online at:
> http://www.countyhealthrankings.org/sites/default/files/states/CHR2010_IA_0.pdf
>
> The data for each county listed in the report is available online at:
> http://www.countyhealthrankings.org/iowa/data

IDPH and local boards of health utilize both reports to assess health needs and for strategic planning and policy purposes.

Local Health Agency and Board of Health Challenges

Home care services are a main income source for local health agencies. More recently health networks based in larger metropolitan areas, and Medicare managed networks are expanding to capture the home health care market leaving the local health agency with a depleting income source. Ideally these non-local organizations would share coverage opportunities and data which could result in more quality care and fewer redundancies and inefficiencies. Local health agencies are not prepared to compete for market share and spend money for advertising and public promotion.

As some county governments cope with internal budget deficits and growing requirements for their resources, the amount of funding and resources directed to public health and boards of health decreases. To compound the issue, counties are facing cuts in state and federal revenues.

With the implementation of health reform's disease prevention strategies, ideally an era of "we're all in this together" will predominate. State and large government agencies, medical and health care entities will more clearly understand the value of local health agencies. Then in accordance with capabilities and size, local health agencies can be utilized as partners in initiatives and projects. A stronger local health agency is not only beneficial to the health of the community; it also ensures the economic growth and cultural richness of rural Iowa.

Summary

In Iowa local boards of health and health agencies are vital to their communities. They collaborate with state agencies and with regional partners to improve health opportunities for their residents. Local health agencies play a significant role in the overall health status of resident and in some areas act as the health care safety net provider. It is vital that local health agencies be supported to sustain and implement future public health strategies in Iowa.

Comment

To seize the opportunity to invest in health and reduce the economic burden of disease on the state will require creative leadership on the part of both public health officials and the medical health care sector. Continued efforts to provide the leadership and resources to address the underlying behavioral, social and environmental determinants of health will have a greater impact on Iowa's health status.

SECTION FIVE

AGRICULTURAL HEALTH AND SAFETY

Initial Statement - Nationally, agricultural health and safety issues include ergonomics and musculoskeletal disorders, the application of engineering solutions to respiratory disease prevention, building surveillance capabilities, agricultural infectious diseases, and the need for better awareness of agricultural health risks among doctors and nurses. Additionally, it involves working directly with farmers, ranchers, and the agricultural community to pursue disease and injury prevention [94].

Section Five was largely developed through the input and information contributed From University of Iowa - Iowa's Center for Agricultural Safety and Health (I-CASH)

The US Bureau of Labor Statistics (BLS) recently released their count of agricultural work deaths for 2009, an accumulation of Census of Fatal Occupational Injury (CFOI) numbers from all states. The BLS CFOI sum for "Agriculture" deaths in a central U.S.A nine state region (ND, SD, NE, KS, MO, IA, MN, WI, IL) for the 3- year period is 571. Important when comparing the national total is more die working in "Agriculture" in the central USA region, about 30 percent of the total for the nation! Over the period, 60 percent involved tractors or other mobile machines, 9 percent occurred with grain or feed storage and handling, were caused by livestock, and the remainder were a mixed bunch [95].

In Iowa the rural population suffers from excessive injuries and illnesses, yet there are insufficient health and preventive services to properly address the issue. The rural population can be divided into rural farm and rural non-farm sectors. There are about equal numbers in each sector. The farm sector has a unique set of occupational health and safety issues in addition to sharing the health and safety issues of the general rural population. The general health care and public health infrastructure is insufficiently equipped to deal with the identification, treatment, and prevention of agricultural occupational health and safety issues. This chapter will define those health and safety issues that are related to agriculture and suggest goals and methods to attack these issues.

Rural Agricultural Demographics

The rural population (those living outside a city of greater than 2500 persons) comprises about 43.3 percent of the total of Iowa's three million inhabitants. Of the rural population, about 20% are involved in production agriculture, which includes owner operators, family members, or employed farm workers (approximately 280,000 persons) [96].

About 90 percent of the land mass in Iowa is in production agriculture. Iowa is the second leading state in total sales of agricultural products, second only to California (a state 3 times the size of Iowa) [97]. The total sales of agricultural products amount to about $26.3 billion annually, about 6.5 percent of Iowa's GDP, and has grown about 17 percent annually over the decade [98].

There are 92,856 farms in Iowa (3rd in the U.S), rather equally spread across the entire state. On these farms are raised about 26 million pigs annually [98]. In 2009, 2.5 billion bushels of corn was raised on 13.4 million acres, and 504 million bushels of soybeans on 9.7 million acres [99]. Further, there are 40 million laying hens producing 9.5 billion eggs per year [100]. Compared to other states, Iowa is the number one leading state in production of pork, corn, soybeans, and eggs. Iowa is also prominent in production of beef on feed (5th), sheep and lambs (8th), turkeys (10th), and milk (12th).

In Iowa farms can be classified into three groups, based on management and production type. The first are traditional family farms which make up by far the highest percentage (83.4 percent) of farm type and the highest number of persons engaged relative to the other two types.

Figure 1.

The second farm type is large, more corporate-style farms. These are characterized by a separation of management and labor, specialization and concentration of production type (only grain, or pork, or eggs, etc) and large production volume. The third type of farm is alternative or niche farms. These farms are often family run with perhaps only a few local seasonal employees producing a variety of products mainly for the local markets (e.g. fruits and vegetables for famers markets, community supported agriculture, organic production). The family farms (often referred to as the farms in the middle) are decreasing in number relative to the growing number of the larger corporate style farms and the growing number of alternative farms. The

reasons for this trend largely depend on economic forces primarily related to our global economy. The cost of production has continued to rise relative to income from commodities requiring greater production and efficiency. It is often difficult for many family farms to have the capitalization to add land, equipment, facilities and labor to achieve the economy of scale where net income is sufficient for a suitable family income without additional off-farm employment. Either one or both spouses on about 60 percent of family and niche farms have additional employment off the farm. Even with these challenges, the total number of farms has increased from about 90,000 in 2002 to 92,856 *in the 2007 census.* (Most of the 2000 added farms over the period are niche or alternative agricultural operations).

Producers/Families/ Workers

As mentioned (although under stress) the family farm is still the backbone of Iowa agriculture, making up the greatest proportion of persons involved in Iowa agriculture, with about 85,000 family farms (of the total 92,000 farms), with 85,000 owner/operators, about 170,000 family members and 20,000 employees or a total of about 275,000 persons. Employed farm workers can be categorized in two groups: 1) native citizens (usually indigenous local Caucasians) and 2) foreign born workers (mostly Latino's, non-citizens, and an estimated 30 percent undocumented workers). There are an estimated 17,000 of the former and 3,000 of the latter.

General Health Status of the farm population

The good news about the farm population is that by some measures, they appear healthier than the general population as noted by the fact that their fatality rates are lower for the principal causes of death compared to the general population. They have lower rates of fatalities due to heart attacks, stroke, and overall cancer. The principal explanation for these observations seems to be associated with lower incidence of cigarette smoking. By several measures in Iowa, only about 5 percent of the farm population smoke compared to about 22 percent of the general population [101]. Additionally, there is some evidence that more healthy diets and more exercise also contribute to these findings.

The immigrant worker population on the other hand does not appear generally as healthy as our indigenous farmers and farm workers. The following table 1 summarizes common health conditions of the immigrant worker population.

Table 1.

Migrant Health Problems	Data: Proteus, by Antonio Heras
Occupational Exposures	Lifestyle Exposures
Unintentional injuries	Oral health problems
Pesticide exposure	Infectious diseases (TB, HIV, STDs)
Skin diseases	Mental health problems
Eye injuries	Substance abuse
Respiratory disease	Chronic diseases
	Nutrition deficiencies

General Occupational Health Issues

The overarching problem with the health status of the farm population is the occupational injuries and illnesses they suffer. Approximately 550 farmers in the U.S. die annually from occupational injuries. In Iowa, approximately 30 farmers lose their lives from occupational injuries. Agriculture is the most hazardous occupation in the U.S., as well as in Iowa, with an occupational fatality rate 6 times higher than the general working population. In Iowa, farmers make up about 37 percent of all occupational fatalities in the state [102], even though they only comprise 7 percent of the total workforce (farm workforce here does not include family member.)

Fatalities from trauma

The primary agent associated with occupational fatalities is farm machinery. Within that category, tractors are by far the principle agent of fatalities, associated with nearly 50 percent of all occupational fatalities. Of the tractor associated fatalities, 50 percent of those are due to tractor overturns, crushing the operator. Nearly 100 percent of those crushing injuries are associated with older tractors that do not have roll over protective structures (ROPS). An additional 25 percent are from run overs, and 25 percent associated with roadway collisions. Other fatal injuries are distributed over a variety of causes including other types of machinery, all-terrain vehicles, animal injuries, confined space hazards including flowing grain entrapments, and hydrogen sulfide poisoning from liquid manure storage in swine or cattle confinement operations. Among a variety of other fatal exposures, farmers also die more frequently than the general population as a result of suicides. The mode of doing farm work is

changing as farmers and farm youth move from tractors to all-terrain motor vehicles (ATV) to transport equipment, and to move across the fields. Unfortunately, as ATV use increases so do accidents and death rates. There are currently programs and projects focused on ATV safety for youth. The University of Iowa Children's Hospital is one of the state leaders for ATV safety. Nationally, there are over 200,000 ATV accidents per year; **in Iowa** one in three ATV accidents involves children under age 16. Most pediatric safety experts strongly discourage ATV ridership by children under age 16 and promote use of safety helmets.

Fatalities from acute illnesses

Acute occupational fatalities in farmers from pesticide poisonings are very rare today as a result of less acutely toxic chemicals used today, safer formulations, and safer application methods. However, we have seen a rash of fatalities in crop dusters these past few years as a result of plane crashes.

Although overall cancer fatalities are reduced in the farming population (as a result in lower smoking related cancers, e.g. lung cancer), farmers are at increased risk for several different cancers, including multiple myeloma, non-Hodgkin's lymphoma, prostate cancer, and brain cancer among others. The causes of these increased cancers are not entirely clear, but there have been shown associations (not cause/effect in most cases) with chemicals such as pesticides (e.g. the herbicides 2, 4-D and 2, 4, 5-T with non-Hodgkin's lymphoma and soft tissue sarcoma) and nitrates in the water.

Chronic illnesses

There are numerous occupational illnesses that may not result in acute fatalities, but may result in significant disabilities. Respiratory problems lead to illness conditions with about 17 percent of grain farmers and 25 percent of pork producers suffering one or more respiratory conditions [103]. Skin conditions, toxicity conditions, infections from livestock, hearing loss, arthritis, and behavioral health issues including psychological stress and depression are common (Lessenger, 2006) [104]. The average farmer works in the midst of a host of occupational hazards, while struggling with the stress of trying to beat nature's weather and volatile commodity markets with an aging body and associated cumulative physical stress resulting in arthritis, low back pain, and hearing loss. Special understanding and services are needed to care for this sector of the rural population.

Although agricultural fatalities in Iowa have declined over the years, agriculture is still by far the most hazardous industry in which to work. Besides the social and psychological trauma these fatalities and injuries take on our fellow Iowans, there are severe economic concerns as well. As agriculture is such a fundamental industry in our state, the injuries and fatalities make a big impact on the state's economy as each fatality costs $442,769 [105]. For the approximately 30

fatalities we have experienced in Iowa in recent years, this would add up to $16,364,670 annually. Studies have shown that a typical producer (and/or his/her insurer) spends about $512 annually on illnesses and injuries as a result of their work exposures. Multiplying this by our 92,000 farms, results in an estimated $47.5 million expense. When combined with the expense of fatalities, Iowans experience a $63.8 million annual loss in medical expenses and labor loss annually resulting from agricultural injuries [106].

General rural health care insufficient

Iowa is similar to many rural states in that we are challenged by the lack of ability to provide sufficient, accessible, and affordable health care to our rural communities. Other sections of this report clearly identify these needs. Even if general health care were sufficient in our state, the unique health issues of our agricultural population would not be well served. Awareness, understanding, and ability to identify, treat and prevent agricultural occupational problems are not available in our general rural health care system. There has been an emerging specialty in the field of rural primary health care and occupational health, called "agricultural medicine". Without this type of specialty care, the overall health of our rural population will continue to lag behind.

Provisions to care for the occupational health care of the agricultural population

The general training of our health care providers does not include enough training in agricultural medicine (Agricultural Medicine is the science of identifying, treating and preventing injuries and illnesses in agriculture) (Donham 1983). In our experience occupational related illnesses may not be diagnosed or treated correctly by health care providers if they are not trained in agricultural medicine. Also, injuries may not be properly treated or prevented. The general health care community is not sufficiently equipped or educated to handle these issues.

Agricultural occupational health and safety services available

The Extension Service of Land Grant Colleges typically has had one Agricultural Safety Extension Specialist (regardless of the size of the agricultural population within the state). However, budgets have been trimmed progressively over the years and many states no longer have such a position. Although Iowa still has such a position, it is not a full time position and the service is limited to education and information dissemination to the agricultural population, dealing mainly with acute injuries.

To help address the broader issues of occupational health in agriculture, Iowa's Center for Agricultural Safety and Health (I-CASH) was established by an act of the Iowa Legislature in 1990. I-CASH is housed at the University of Iowa, but is a consortium of the University of Iowa

College of Public Health, Iowa State University, The Iowa Department of Public Health, and the Iowa Department of Agriculture and Land Stewardship. Further, it serves as a convening organization for several agricultural health non-profit organizations in the state, including The AgriSafe Network, Farm Safety 4 Just Kids, AgriWellness, Proteus, and the National Education Center for Agricultural Safety. Activities are coordinated to support one another in the most efficient and effective manner possible.

Training of health care providers in Agricultural Medicine

One of the principle missions of I-CASH is to increase the awareness and knowledge of our health care practitioners about the illnesses and injuries associated with Iowa's agriculture, how to treat them and how to prevent them (Agricultural Medicine). In the mid and late 1970's, I-CASH started as a small program at the University of Iowa to train medical students in this capacity. Over the years, it has grown to include training of physician assistants, and doctors being trained in family medicine in the 10 family medicine residency training programs scattered about the state. To support the mission three graduate programs in agricultural health and safety were established; 1) a graduate certificate, 2) a Master of Science, and 3) a PhD program. Additionally, a continuing education program for practicing physicians was developed. The course, held annually in June attracts around 40 health professionals. To date, over 300 Iowa health professionals have been trained in Agricultural Medicine.

In 1987, a program to provide agricultural occupational health services to the agricultural community was started. It is now called the AgriSafe Network. In Iowa, there are 13 communities that have an AgriSafe clinic. Most of these clinics are associated with rural hospitals, but some are associated with county health departments. These clinics are typically run by nurses trained in agricultural medicine at the University of Iowa. The AgriSafe clinics provide injury and illness prevention assessment and detection for farm families. This model seems to be the perfect reflection of current health reform direction that is directing prevention programs at the local level and in conjunction with medicine and public health. See Figure 2 on the next page.

Summary statement *- If the community based system can grow and obtain adequate funding, a large step toward providing agricultural medicine services (the missing component of our rural health care system) will have been addressed.*

Figure 2.

Comments (From the Iowa's Center for Agricultural Safety and Health Program)

Future goals for agricultural health and safety are embodied in the updated goals and objectives of the 2010 Healthy Iowan's document, which listed specific needs and recommendations for Agricultural Occupational Health – Chapter 14 goals statement, 14. 2.

These goals and objectives are modified and updated below to reflect the needs for the decade of 2010 – 2020. Although these goals and statements are reviewed and revised for Healthy Iowan's 2020 report, the statements below are very relevant for this report.

The following are recommendations for 2020

1) Decrease occupational fatal and nonfatal injuries in agricultural populations as follows:
   - Decrease by 25% overall fatal and nonfatal injuries in the farm population
     - Baseline, 2010: 840 fatal and nonfatal injuries, including 30 fatalities (Iowa Department of Public Health and Iowa State University Extension)
   - Decrease by 50% occupational related fatal injuries in farm youth.
     - Baseline, 2010: 6 fatalities among children aged 18 and under (Iowa Department of Public Health and Iowa State University Extension).
2) Certify 2,000 Iowa farms in the Certified Safe Farm program to generally reduce hazardous exposures on farms.
     - Baseline, 2010: 600 farms (Certified Safe Farm program).
3) Increase health and safety education for farm youth by expanding the Farm Safety 4 Just Kids chapter network to 30 chapters.
     - Baseline 2010: 17 chapters.

4) Through 2020, increase hands-on training for farmers, agricultural safety educators, and emergency medical personnel as follows:
   - Annually train 2,000 firefighters and emergency medical services personnel on agricultural trauma and/or rescue;
   - Annually train 2,500 Iowa teens aged 14 to 15 on tractor safety; and
   - Annually train 50 high school vocational agriculture teachers in tractor safety.
5) Through 2020, enhance federally funded programs on agricultural health and safety, such as the Great Plains Center for Agricultural Health and the Fatality Assessment and Control Evaluation program. (A University of Iowa and Iowa Department of Public Health)
6) Through 2020, continue planning and coordination among the agencies to provide public service announcements and other community information on farm health and safety that is also culturally sensitive and language appropriate.
7) Through 2020, continue to enhance relevant web sites to increase access to knowledge of agricultural health and safety.
8) Through 2020, continue efforts to reduce tractor- related injuries by 50%. Actions to attain this goal should include endorsement, promotion, and enactment of the educational, incentive-based and regulatory aspects of "Tractor Risk Abatement and Control including:
   a. The Iowa Department of Public Health should monitor tractor injuries
   b. The Iowa Department of Transportation should promote lighting and marking standards for tractors on the roadway
   c. The Iowa Department of Education and the Iowa Department of Transportation should assure that schools include tractor safety and roadway safety (regarding driving with tractors and other farm equipment on roads) in driver's education courses
   d. The Iowa Department of Transportation should assure that driver's training and driver's license tests include questions on safe operation of vehicles on roadways where farm machinery operates; and the Iowa legislature should enact model legislation listed elsewhere in this plan.
      - Baseline: Average annual tractor-related fatalities totaled 22 from 1990 to 1997; it is estimated that successful implementation of these measures will reduce annual Iowa tractor-related fatalities to no more than an average of 11 by 2020.
9) Provide health care resources to the immigrant farm worker community in Iowa.
10) Increase the number and distribution of AgriSafe Clinics in the state so that all farmers would be within 50 miles of such a clinic. To achieve this goal, we would need to achieve I-CASH funding levels to its original legislated intent of $360,000, (adjusted to 2011 dollars, which would be $609,000).
      - Baseline: in 2010 there are 13 AgriSafe Clinics in Iowa.

SECTION SIX

HEALTH WORKFORCE IMPLICATIONS FOR RURAL

Initial Statement - The shortage of healthcare workers in rural communities is the greatest rural health issue today. While about 20 percent of the American population – approximately 61 million people – live in rural areas, only about nine percent of all physicians and 12 percent of all pharmacists practice in rural communities. Rural areas average about 30 dentists per 100,000 residents, while urban areas average approximately twice that number. Shortages of nurses (both registered nurses and licensed practical nurses) and allied health professionals also abound [107]. Iowa rural health workforce reflects the national norm, however we rank lower for mental and behavioral health access than 46 other states.

This Section of the Rural and Agricultural Health and Safety Resource Plan focuses specifically on "rural" workforce issues. It should be viewed as an addendum to the 2008 Iowa Department of Public Health "*The Future of …* Iowa's Health and Long-Term Care Workforce" report. The 2008 report provided specific date regarding health professionals, workforce issues, and offered recommendations.

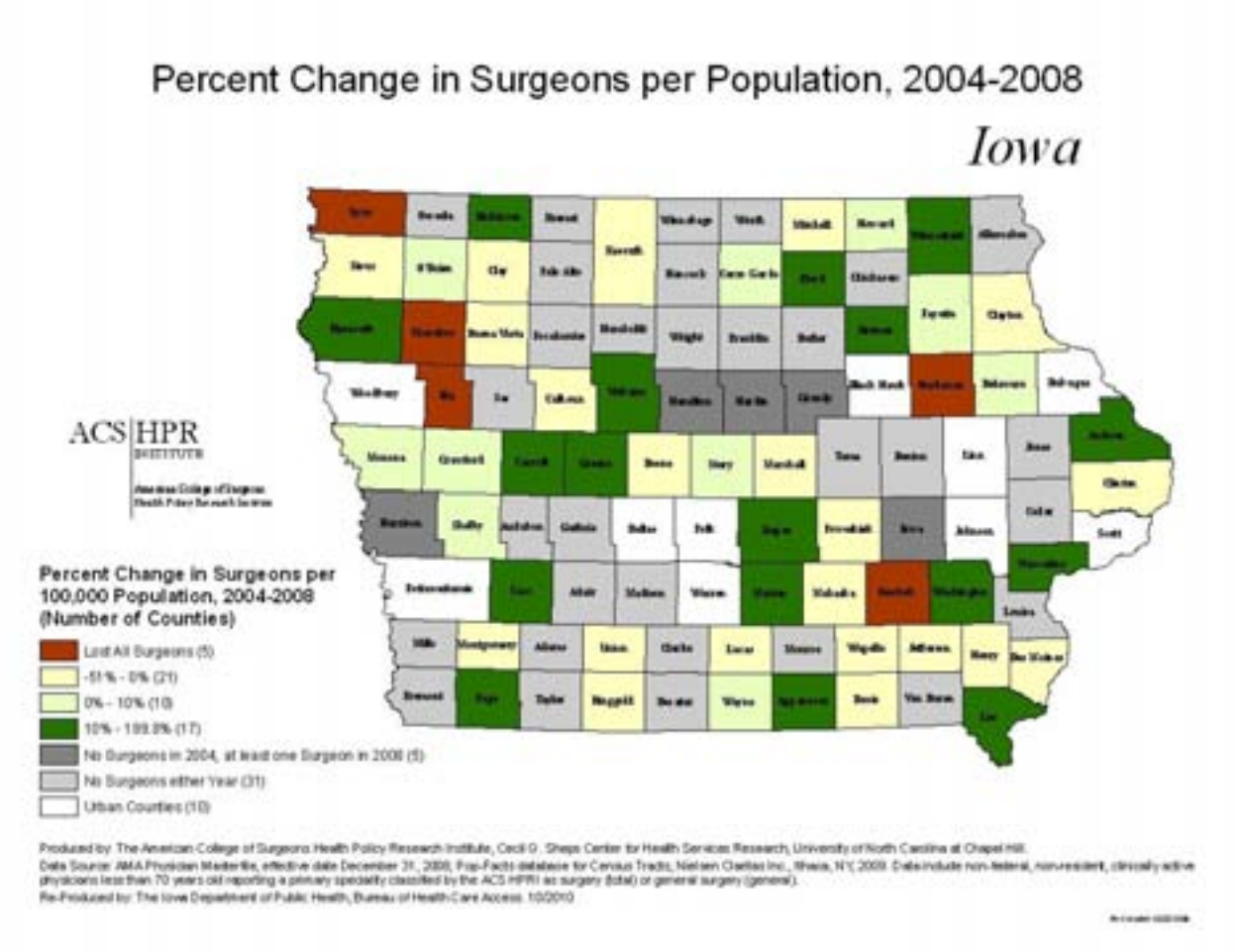
Rural Workforce Barriers

Health care workforce shortage problems are reality in rural areas for several reasons. Several studies and surveys indicate issues include: An aging workforce population; difficulty in recruitment and retention; lack of educational and training opportunities; high vacancy rates due to turnover and retirement; lack of opportunities for career advancement; and increased work load demand. These issues are universal for all health care workers in all professions in rural area [108]. A review of rural health research center literature (2000-2010), listed "the proportion of students choosing family careers will likely remain far below the numbers required to replace rural and urban family physicians leaving the field because of death or retirement" [109].

Disparity in reimbursements – Rural residents tend to be poorer, more elderly, and fewer with comprehensive or employer sponsored health insurance. Additionally, there is a large disparity between rural and urban health delivery systems. This results in reimbursements that are not sufficient to cover all costs including the cost of the provider delivering the health care services. The resulting reimbursement disparity in urban/rural provider salary is another strong factor in why physicians and others with substantial educational loans will not consider rural practice.

Surgeons in Rural Iowa

Between 2004 and 2008, there was an identifiable decrease in the number of surgeons practicing in rural Iowa counties. Some reasons for the decrease of surgeons are associated with: high costs for surgery equipment, increasing rates of referrals to metro surgical specialty centers and the spiraling cost of liability insurance for surgeons.



Estimates of the gap between the number of surgeons needed to meet population demand for care and the current (2010) supply suggest an undersupply of between 10 percent and 30 percent. General surgeons are in short supply, especially in small communities, with perhaps as many as 1,300 needed to fill current gaps [110]. The Affordable Care Act (ACA) includes increased health insurance coverage. As individuals become recipients of health insurance, the number of surgeries is expected to grow.

Dentists

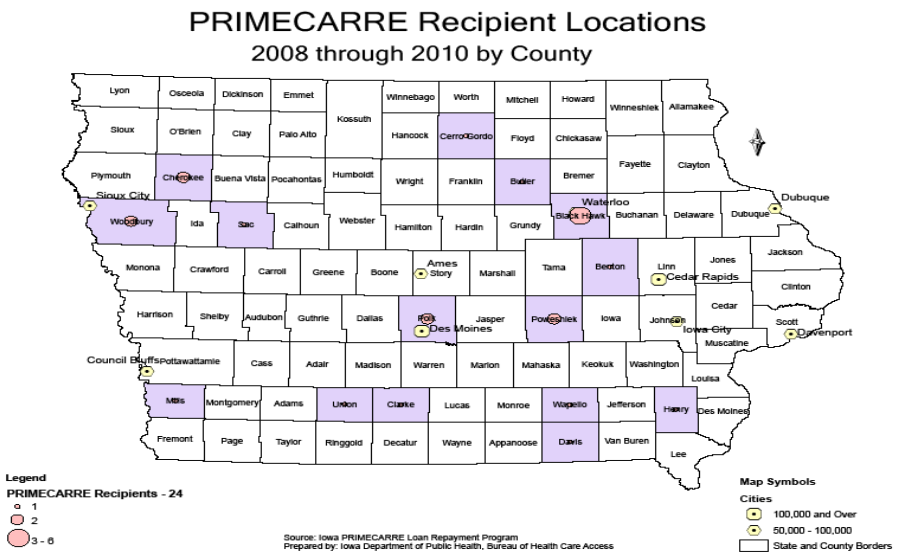
According to the 2011 Advancing Oral Health in America Report, it is debatable if there are enough dentists in the nation. What is known, however is that the oral health workforce is not well distribute geographically. Even with financial incentives such as loan repayment, dentist may not be able to sustain in rural areas. University of Iowa Office of Statewide Clinical Education Programs (OSCEP) Annual Report 2010, reported over 50 percent of dentists practicing **in Iowa,** is over age 50. The report indicated in 1997, there were 1,446 practicing dentists. In the 12 years following there was a net gain of only 38 dentists.

National Programs that Improve Iowa Rural Workforce (6)

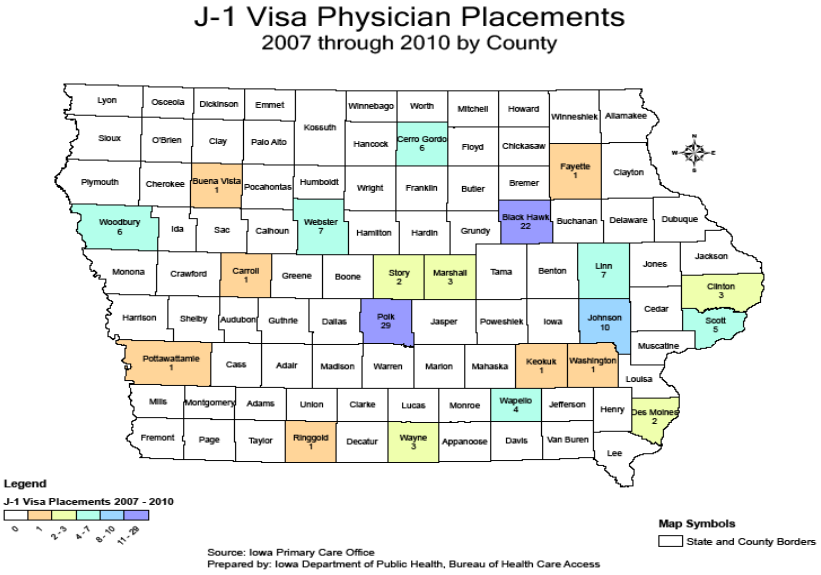
Iowa Area Health Education Centers Des Moines University's College of Osteopathic Medicine and the University of Iowa Health Sciences Colleges in January 2011, announced the coordination of one application for continued Federal grant support of the Iowa AHEC Program. The IA AHEC program can offer several rural specific projects and activities to ensure opportunities for students interested in rural health practices. IA AHEC requires state funding.

National Rural Recruitment and Retention Network (3RNet) promotes medical and healthcare jobs across the nation. Members are not-for-profit organizations helping health professionals find jobs in rural and underserved areas throughout the country. Individuals looking for jobs in rural Iowa can post on the site. The individuals are then supported by staff at the IDPH – Bureau of Oral and Health Delivery Systems, Workforce Center.

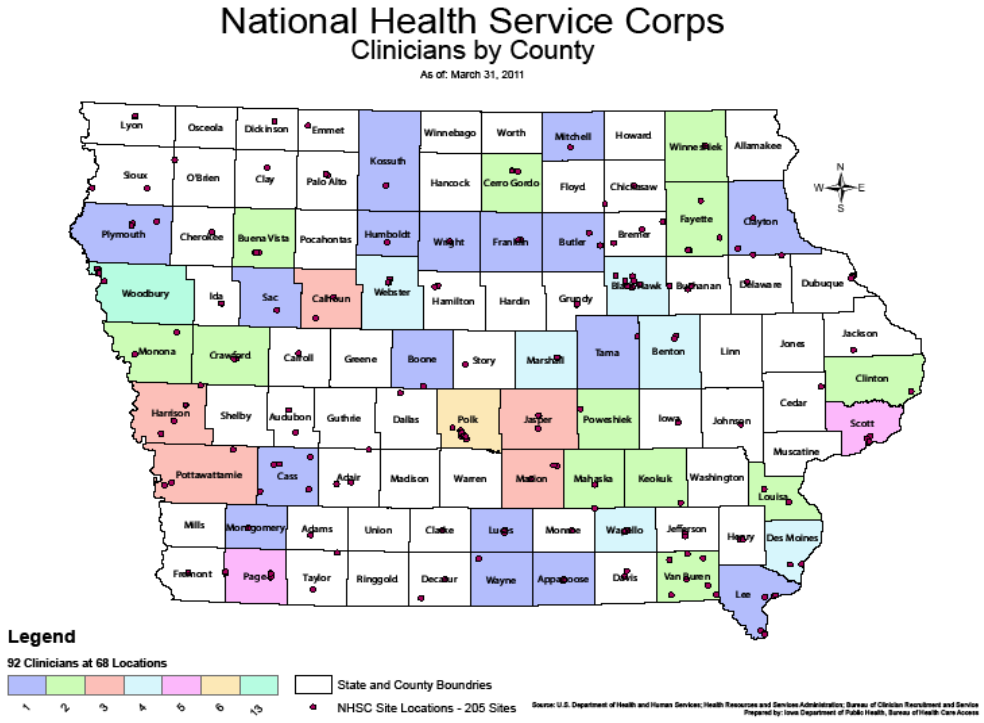
The Primary Care Recruitment and Retention Endeavor (PRIMECARRE) was authorized by the Iowa Legislature in 1994 to strengthen the primary health care infrastructure in Iowa. PRIMECARRE allocations currently support the Iowa Loan Repayment Program. Recipients of the loan repayment awards must practice in rural and/or underserved areas. Eligible providers include primary care physicians, psychiatrists, clinical psychologists, dentists, dental hygienists, physician assistants, registered nurse practitioners, certified nurse midwives, clinical social workers (LISW), and psychiatric nurse specialists. The program in Iowa is supported by staff at the IDPH – Bureau of Oral and Health Delivery Systems, Workforce Center. PRIMECARRE requires state match funding.



J-1 Visa Waiver Program, Iowa participates in the State Conrad 30 Program, commonly referred to as the J-1 Visa Waiver Program, which assists in the recruitment of primary care and sub-specialty physicians to underserved areas of the state. J-1 physicians are international medical graduates who came to the United States on a J-1 visa to complete medical residency and fellowship education and training. Through the waiver program, physicians can remain in the U.S. if they work in an underserved area for three years. IA consistently fills the 30 J-1 slots allocated. The program in Iowa is supported by staff at the IDPH – Bureau of Oral and Health Delivery Systems, Rural Health and Primary Care Center.



National Health Service Corps, The National Health Service Corps (NHSC) is a federally-funded scholarship and loan repayment program for primary care medical, dental and mental health providers. NHSC scholars receive scholarship while completing their health professions education and then have an obligation to practice in a designated Health Professional Shortage Area for the same period of time for which they received scholarship. In exchange for two years of employment in a designated Health Professional Shortage Area, NHSC loan repayors receive up to $50,000 to help pay off qualified student loan debt. Loan repayors can amend their contracts at the end of the first two years of service in order to extend their service commitment and receive additional loan repayment. The program in Iowa is supported by staff at the IDPH – Bureau of Oral and Health Delivery Systems, Rural Health and Primary Care Center.



Iowa Rural Health Clinics are part of a federal program implemented through the Rural Health Clinic Services Act (Public Law 95-210) which addresses the inadequate supply of physicians serving Medicare beneficiaries and Medicaid recipients in rural areas. RHCs receive reasonable cost-based reimbursement from CMS for a defined set of core physician and certain nonphysician outpatient services. The additional reimbursement incentive is important and allows the RHCs to sustain. One of the stipulations for RHC practice is that a mid-level provider must be working 50 percent of the time the clinic operates. Mid-level providers are much

needed and well received in rural Iowa. The program in Iowa is supported by staff at the Department of Inspections and Appeals and IDPH – Bureau of Oral and Health Delivery Systems, Rural Health and Primary Care Center

Rural Strategies and Solutions – Much thought has been given by "rural health experts". Research and strategies that specifically address rural health workforce have been noted by rural health research centers, the National Rural Health Association, the National Advisory Committee on Rural Health and Human Services (which reports directly to Secretary of Health), the National Organization of State Offices of Rural Health and the Iowa Rural Health Association.

- Increase the number of students from rural areas and students committed to rural and family practice in medical schools.
- Develop equitable reimbursement and pay models/systems for primary care physicians.
- **Work with institutions of higher learning, workforce training programs and state agencies to develop a greater understanding of rural health workforce development issues and create educational opportunities that expand the rural health workforce.**
- Identify cross-credentialed profession models and work with allied health groups on implementation.
- Develop and implement community-based training programs that increase the number of students from rural communities entering health professions.
- Improve workforce data collection in order to generate and analyze standardized data.
- Stabilize current levels of primary care providers in rural areas through tax credits and incentive pay.
- Encourage more training of "mid-level" and allied health professionals for rural communities.
- Legislation to encourage health care extenders in the areas of oral health, and EMS (Community Paramedics).
- Seek authorization and funding which allows pharmacists to be eligible for the National Health Service Corps.
- Improving access to care for rural Veterans.
- Require that training programs receiving graduate medical education funding have rural training sites. (See box below).

"While insufficient, the rural physician supply has remained relatively stable over the past decade, but its future is threatened by reduced medical student interest in family medicine careers and a declining residency match rate. A survey of all U.S. family medicine residency programs found that 33 rural programs accounted for over 80% of family medicine training occurring in rural sites, although some urban programs offer rural training tracks. Expansion of rural family medicine training is limited by Medicare graduate medical education funding caps on residency slots, financial hardships facing rural hospitals, and the challenges of creating residency training programs".

Source: Family Medicine Residency Training in Rural Locations. July 2010: Wisconsin Rural

With 66 percent of Health Professional Shortage Areas (HPSAs) and a higher proportion of near-retirement physicians in rural areas, building the primary care workforce in rural areas is a critical need. Rural Training Track (RTT) programs are an important tool in addressing those physician shortages in rural areas. While traditional family medicine residencies are a major pipeline for rural physicians, physicians completing RTT family medicine residencies are even more likely to practice in rural areas. It is widely accepted that physicians often choose to practice in settings similar to their residency experience. RTTs have demonstrated at least 75 percent success at placing graduates in rural practice [111]. In 2010, board members from the Iowa Rural Health Association and Iowa Center for Rural Health and Primary Care Advisory Committee both distributed position memos to the University of Iowa offering their encouragement and support to the University for the Initiation of health professional rural training programs.

What Is Working In Iowa?

There are some important programs and initiatives which are working to encourage, direct and keep health care providers in Iowa's rural communities.

The Broadlawns Medical Center first opened its doors as a hospital to the residents on April 13, 1924. It is one of the oldest and largest family medicine residency programs in Iowa. Over the three decades since the program originated in 1977, nearly 300 graduates of this program have taken their training to improve healthcare in countless rural areas, small towns, communities and large metropolitan areas, with more than 170 Broadlawns graduates taking up practice in rural Iowa. The 2009, family medicine graduate program resulted in six of seven graduates choosing to practice in a rural area.

Des Moines University (DMU) recognized needs for primary care providers and other specialties in rural Iowa, and initiated the Rural Medicine Educational Pathway (RMEP) with the 2008-2009 academic year. It's part of DMU's larger effort to recruit and retain health professionals in underserved areas. The program provides the equivalent of six full-tuition scholarships per year. A medical student who chooses a primary care specialty racks up debt in the neighborhood of $150,000. At the same time, primary care specialists don't typically earn as much as doctors specializing in other areas. So, this tuition coverage is a boost for a student's choice to practice primary care. Experts recognize that doctors familiar with rural life and rural practice are more likely to provide service there. So, when selecting scholarship students, DMU considers whether the student is from an Iowa rural community. At least half of a student's third- and fourth-year clinical rotations are completed in rural Iowa communities.

University of Iowa, Office of Statewide Clinical Education Programs (OSCEP) includes the Medical Practice Development Program which includes programs and activities in the area of physician and non-physician provider recruitment, placement, retention; practice management, and practice coverage. In 2009-2010, one hundred twenty communities in 85 counties were served. The Rural Physician Support Program (RPSP) is specifically aimed at rural communities. RPSP offers recruitment and retention and practice coverage services. When providers in rural communities need to leave their practice for reasons like vacations, health, and meetings the RPSP provides resident physicians to cover the practice. Since 1994, physicians in rural practices have utilized RPSP 320 times. This is a valuable service that allows rural physicians to take much needed time away from their practice and be assured their patients are receiving physician care.

Fulfilling Iowa's Need for Dentists (FIND) connects dentists and underserved rural communities. FIND can provide up to $100,000 in dental education financial assistance to dentists choosing to practice in underserved parts of Iowa. The project enhances the Delta Dental of Iowa Loan Repayment Program (DDILR) by stimulating community matching funds to meet the DDILR funds. This highlights the importance of a dentist to a community's economic growth and the overall health of residents in rural Iowa. FIND partners include Delta Dental of Iowa, Iowa Area Development Group, Ripple Effect, IDPH and the Office of Iowa Practice Opportunities, University of Iowa College of Dentistry.

Summary

As those living in rural communities already know, a shortage of healthcare workers has a profound impact in a variety of ways: decreased access, which has a profound impact on quality of care; increased stress in the workplace; increased medical errors; increased workforce

turnover/decreased retention rates; and increased healthcare costs. The projected national trends will only exacerbate the impact of rural health workforce shortages that currently exist. Recent health reform legislation may be favorable to rural family medicine residency training and other health professional training and education programs. State agencies, educational institutions, programs dedicated to health professional recruitment and retention, and rural organizations, need to collaborate with a comprehensive strategy to increase successful recruitment and retention of health care professionals practicing in rural communities.

Comments

In September 2009, the Health and Long-Term Care Access Advisory Council, reported to the Iowa Department of Public Health, recommending Strategic Plan Initiatives to be included in the Health and Long-Term Care Access Strategic Plan as required by Iowa Code 135.163 and 135.164. Assuring access for all Iowans living in rural areas was Goal 1. This document affirms the recommendations listed below as they appeared in the report from the council:
Goal 1 – Assure access for all Iowans living in *rural* areas [112].

1. Target and fund loan repayment programs to recruit clinicians to work in rural areas. Make funds available to individual rural communities and educational programs to be used for recruitment, training, and retention of necessary health professionals (options: loan repayment, rural scholar, tax incentives).
2. Support technology that improves rural access to health care providers (telemedicine/telehealth/call center or resource line/electronic health records).
    - Working with Magellan Behavioral Care in Iowa, Inc., expands telehealth to all 99 counties and fund training programs for psychiatrists and practitioners. Eventually expand to include other payers. (Iowa Psychiatric Society, for a couple of years, act as the central coordination entity.)
3. Establish best practices for multi-disciplinary care models for rural areas.
    - Develop interprofessional core curricula.
4. Remove funding and reimbursement barriers to multi-disciplinary care models.
    - Address legal/regulatory rules that impede the practice of all rural health care providers, especially mid-level practitioners.

The approaches listed above are not solutions in themselves however; utilized as components to an overall long-term strategy by the agencies, organizations and interested parties they can result in policy and initiatives that will begin to bend the insufficient numbers of health care professionals in rural Iowa.

SECTION SEVEN

INFORMATION TECHNOLOGY IMPLICATIONS FOR RURAL HEALTH

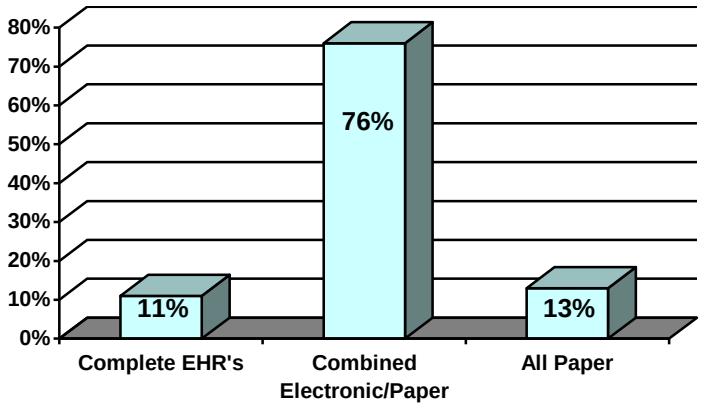
Initial Statement - Health information technology (HIT) has the potential to revolutionize the delivery of health care. This section will include basic information on three related areas of Information technology (IT): 1) Electronic health records (EHR), 2) telemedicine, and 3) health information exchange (HIE).

Electronic Health Records

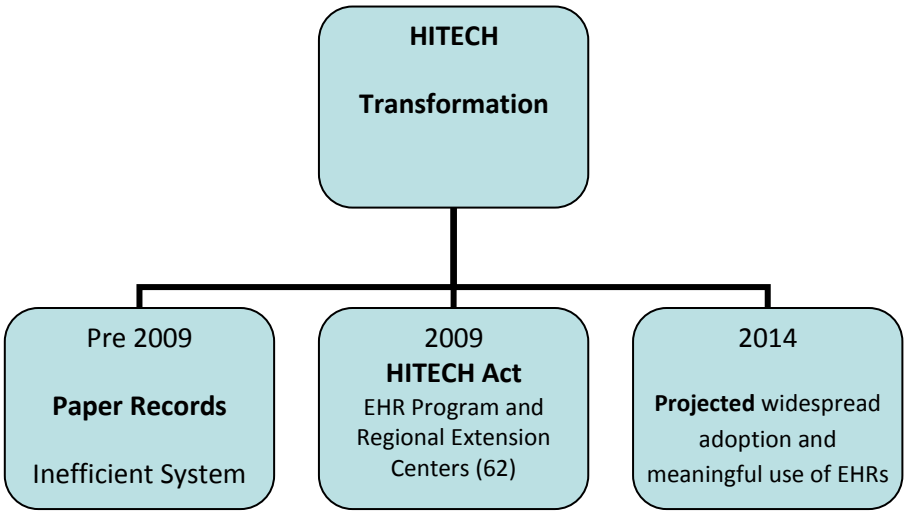
The American Recovery and Reinvestment Act (ARRA) of 2009 and the Patient Protection and Affordable Care Act of 2010 (ACA), revealed the importance of electronically generated data for improvements in health care quality, efficiency, and overall population health. While advances in information technology (IT) hold great promise, at the beginning of 2010 less than one third of critical access hospitals used IT for clinical health purposes. Adaptation of IT to HIT includes sufficient workforce (IT technologists), capital, and buy-in by key health care providers. A December 2010 survey report by the Centers for Disease Control and Prevention (CDC) discussed electronic health record (EHR) use concluded:

- 24.9 percent of office based physicians had access to basic EHR while only 10.1 percent had a fully functional system [113].
- 1.5 percent of U.S. hospitals had a comprehensive electronic records system, an additional 7.6 percent had basic electronic patient care systems and only 17 percent had implemented computerized physician order entry (CPOE) system for ordering medications [114.]

A 2009 survey of Iowa Hospitals
(Source: IA Foundation for Medical Care)



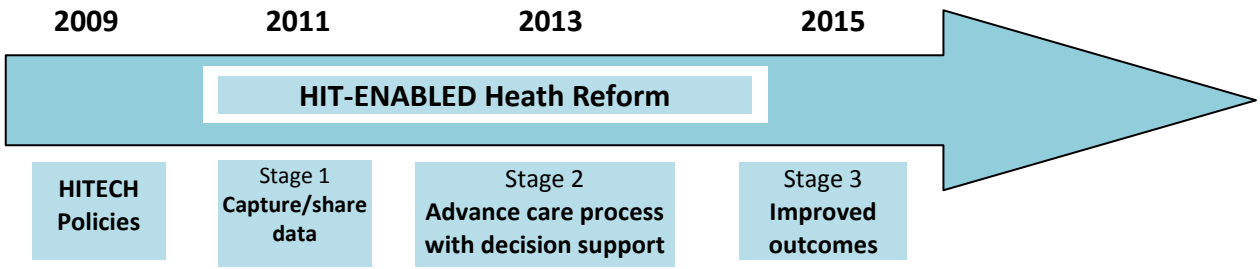
The catalyst for health information technology transformation of the Health Information Technology for Economic and Clinical Health (HITEC) Act of 2009 is transformation is visualized below.



CMS initiated the terminology "meaningful use" (MU) as a guide for the criteria to ensure EHR would be implemented uniformly across the nation and that systems would be used to improve patient care. Qualified health providers, hospitals and clinics that complete activities related to MU receive financial incentives. Likewise, Medicare patient care reimbursements will be decreased for those who do not participate. The principals of MU are [115]:

- Improving quality, safety, efficiency, and reducing health disparities
- Engage patients and families in their health care
- Improve care coordination
- Improve population and public health
- Ensure adequate privacy and security protections for personal health information

Meaningful Use Rollout: Increased Requirements over Time



Adapted from: IA Foundation for Medical Care April 2011

Electronic Health Records Challenge - The Robert Wood Johnson Foundation and partners completed a study *Health Information Technology in the United States*. The 2010 report was intended to reveal the implications for HIT related to health reform. One the key findings relevant to rural health was:

- Critical access, small, public, non-teaching, and rural hospitals were the least likely to have adopted even a basic EHR. (This is not necessarily true for critical access hospitals that are part of a larger heath care system.)

It may be more challenging for rural based hospitals and clinics to fully convert to EHR. The barriers are defined in the table below:

Table 1

Financial	▪ Costs of system ▪ Provider and staff productivity ▪ Uncertain of financial incentives
Technical	▪ Lack of computer skills ▪ Finding the right EHR system for size of hospital/clinic ▪ Trained IT staff ▪ Information overload ▪ Adequate broadband capacity
Organizational Change	▪ Disruption of workflow and productivity ▪ Privacy and security issues ▪ Maintaining patient centeredness and satisfaction

Few who are well-informed on the issues will deny the need for adaption of information technology to increase quality of care. An American Hospital Association survey found 81 percent of the hospitals that replied to the survey plan to achieve MU. **In Iowa** two- thirds (55) of the hospitals responded they will enroll in the EHR MU initiative in 2011-2012. However, there is some speculation about the ability of all rural hospitals and clinics to complete all the required steps for the incentive payments and to avoid the CMS reimbursement penalties beginning 2015 for those providers and hospitals that do not successful achieve EHR meaningful use.

Technical Assistance for Rural - Realizing the unique challenges to small and rural health entities, federal agencies worked to develop several resources and guidelines. Regional Extension Centers (REC) were funded throughout the nation. **In Iowa** the Iowa Foundation for Medical Care (IFMC) was awarded the REC contract. Since, the IA REC has launched a successful effort to deliver technical assistance in rural settings with limited resources for health IT

advancement. The IA REC goal is to assist 1200 primary care providers and 87 critical access and rural hospitals. In the summer of 2011 the IDPH- Medicare Rural Hospital Flexibility (FLEX) program partnered with the Iowa REC to complete regional meetings and trainings across the state.

Telemedicine

Telemedicine is the application of clinical medicine where medical information is transferred through interactive audiovisual media for the purpose of consulting, patient visits and remote medical procedures or examinations. In rural areas where the shortage of health professional is more prevalent, the use of telemedicine to monitor patients and deliver care is especially important. Effective telemedicine practice can increase the ability of health providers to expand their scope of care across miles.

Telemedicine at work in Iowa - there is a shortage of psychiatric providers, and services for children with developmental disorders. Telemedicine has paved the way to increase accessibility.

- Psychiatric services for patients can get seen in real time, with almost no delay in communication feedback. A private psychiatric clinic in Sioux City was able to begin "tele-phych" services after Magellan Health Services approved telemedicine as a reimbursable medium. Through the use of a video connection patients in rural areas with a secure internet connection can be seen by providers in the clinic without travelling to the clinic [116].

- The University Hospital School (UHS) is a specialized hospital—part of the University of Iowa Hospitals and Clinics—includes a specialized interdisciplinary team that provides an ongoing telemedicine consultation service for children and youth with health and developmental disorders. This clinical service is unique in that the evaluations are completed by teams of professionals at both sites with both parents and children present. Real-time communication is achieved by using the Iowa Communications Network (ICN).
    - Economic analysis showed an average local savings to the professionals and parents) and the State of Iowa was $971 per telemedicine session. The average out -of-pocket savings for parents was $125 per session [117].

In April 2011, Iowa Department of Public Health Director, Dr. Marinette Miller-Meeks was quoted as saying, "Telemedicine will be very important in a state like this because it is rural". Miller-Meeks said, "With telemedicine, we will be able to do more". The problem with the technology is that it is "expensive," but once it is in place it can help cut down on costs and provide greater access. The Public Health Information program would put into place the infrastructure and processes to ramp up the system [118].

Telemedicine challenges – While the benefits to telemedicine are not disputed the issues that prevent widespread adoption are similar to other technology related areas. They include:

1) Workforce – training and costs related to reliable staff that can maintain equipment. Additionally, training and re-training for health providers.

2) Security – As technology improves the issues related to patient information security are resolved.

3) Equipment – Costs including maintenance are a challenge for some small hospitals and clinics.

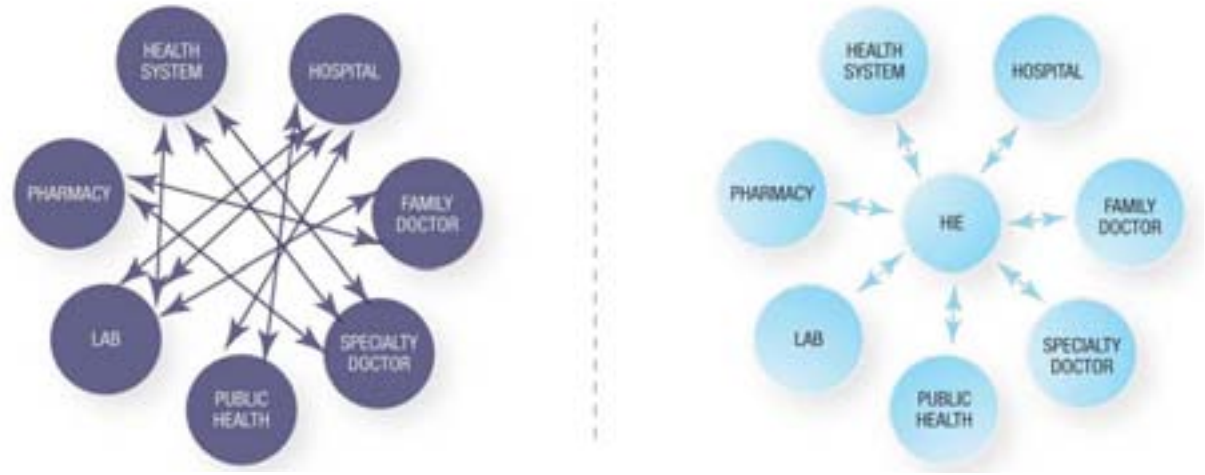
4) Reimbursement - telemedicine is now becoming widely recognized as both cost and clinically effective. Insurance reimbursement varies from state to state. Reimbursement rates and percentages of cases that are being reimbursed for are not well tracked. In some cases Medicare is reimbursing at a rate 100 percent for submitted claims while in others the reimbursement rate is closer to 40 percent. Additionally, reimbursements for patients in bordering states present a unique challenge. Centers for Medicare and Medicaid finalized their specific/limited reimbursement proposal for CY 2011.

Until a recent Center for Medicare and Medicaid (CMS) ruling (May 5, 2011) hospitals had to undergo extensive and expensive processes to secure credential and privileges for each practitioner providing telemedicine. Rural hospitals often use consultants for telemedicine, thus the credentialing process was difficult. The new ruling removed this burden especially for critical access hospitals.

Health Information Exchange (HIE)

Iowa e-Health, formed by the Iowa Department of Public Health (IDPH), is a collaboration of consumers, health care providers, payers, and others to establish an electronic health information exchange for the state of Iowa. The Iowa HIE will allow participants to

securely access vital patient health information throughout the state and beyond. (See graphic below.)



Without a statewide HIE
Each health care provider must build point-to-point connections to transfer patient information

With a statewide HIE
Each health care provider is connected

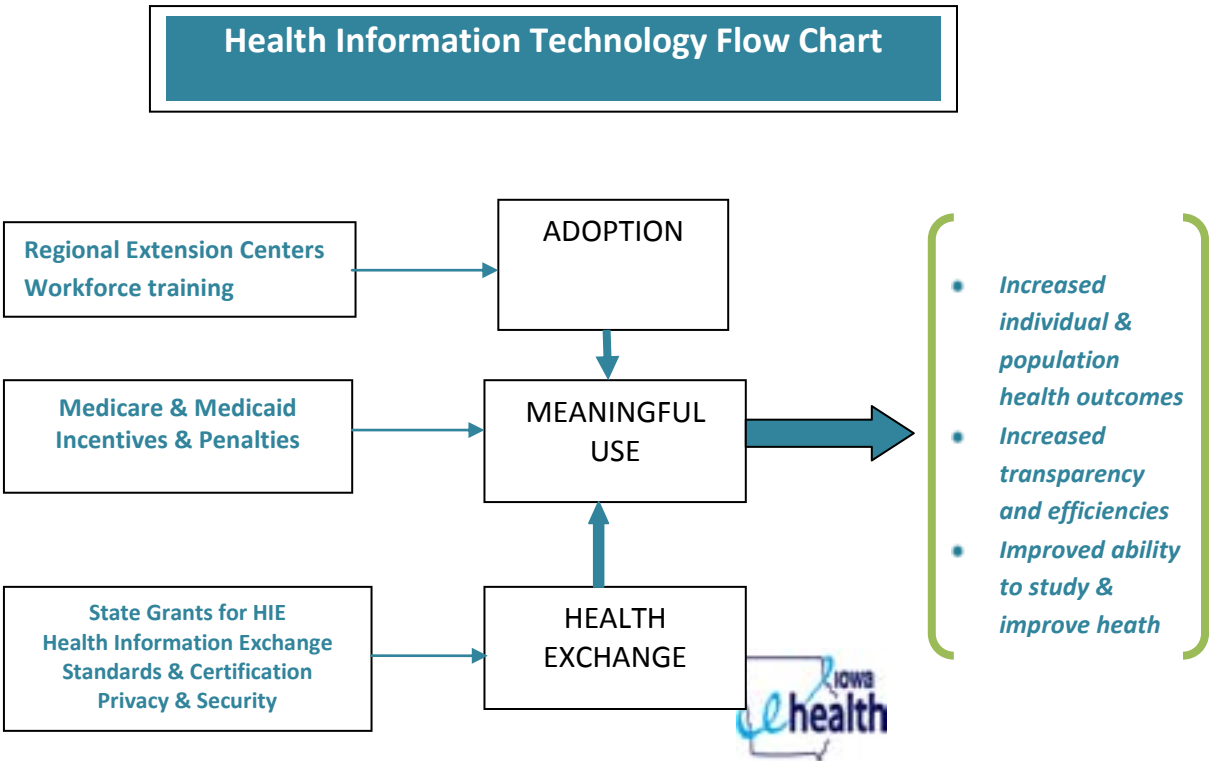
Source: IDPH: Iowa e-health webpage

IDPH – e-Health has involved over 120 individuals from 60 organizations working to ensure rural constituents are involved in HIE. Iowa HIE benefits will be especially valuable to Iowa rural residents who travel distances to get medical services by ensuring proper patient records and provider communications are available.

Workforce - sufficient HIT workforce is one of the most important components of the IT movement. The federal government through the Affordable Care Act implemented HIT workforce training in community colleges and universities. **In Iowa** community colleges are currently offering a six month HIT on-line certification program (non-credit), and a two year degree program. The University of Iowa offers an upper level degree in health IT. Currently other universities are working to incorporate Health IT components to their undergraduate and graduate degree programs. Rural hospitals are referring staff to the training programs to ensure they have qualified IT personnel.

Health information technology developed as a comprehensive coordinated system will be costly, effort intensive and will require the talents and vision of several organizations and

individuals. In Iowa the long-term benefits to rural communities and residents will culminate in real-time access to health care and information exchange. See diagram below.



Adapted from: Iowa Foundation for Medical Care April 2011

Summary

HIT is a rapidly advancing component of systems communication. Currently there are major initiatives funded by both state and federal government, and through the efforts of private organizations. The IDPH e-Health is the overreaching umbrella for all HIT activities. **In Iowa** the "rural factor" related to HITECH is important because: 1) geographically (82 percent) we are a largely rural state, and 2) due in part to the large number of critical access and smaller hospitals (87) and number of certified rural health clinics (141) involved.

Comment

Using HIT to drive improvements in healthcare in rural Iowa will require the support of many diverse stakeholders in the health care system including practicing clinicians, hospitals, payers and HIT suppliers. State and federal funding and legislation coupled with adequate technical assistance are major factors in the successful development and implementation of health information technology in Iowa.

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